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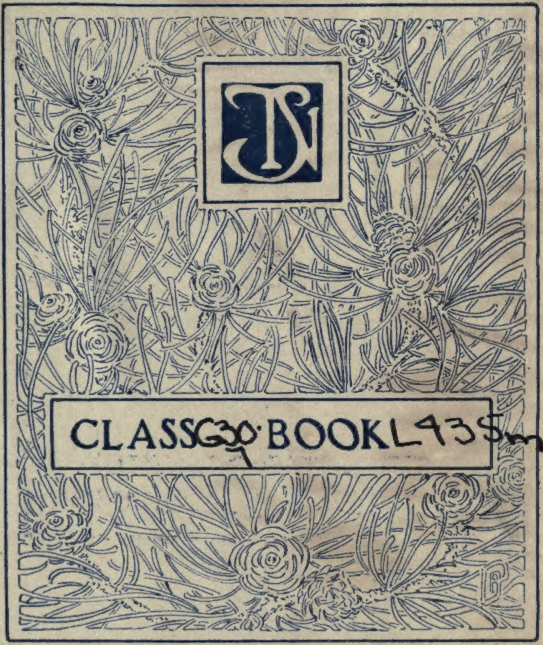

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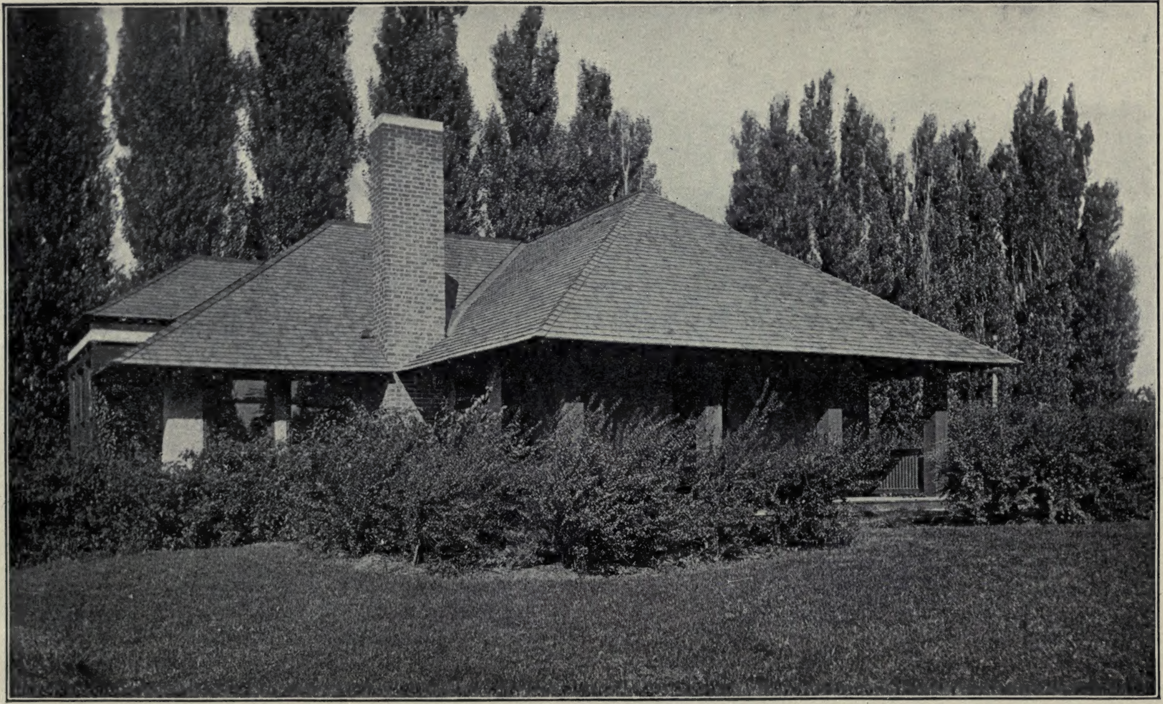
XXI

THE MEANS AND METHODS OF AGRICULTURAL EDUCATION



MODEL RURAL SCHOOL ON THE CAMPUS OF NEW YORK STATE COLLEGE OF AGRICULTURE

THE MEANS AND METHODS OF AGRICULTURAL EDUCATION

BY

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PREFACE

This series of books owes its existence to the generosity of Messrs. Hart, Schaffner & Marx, of Chicago, who have shown a special interest in trying to draw the attention of American youth to the study of economic and commercial subjects. For this purpose they have delegated to the undersigned committee the task of selecting or approving of topics, making announcements, and awarding prizes annually for those who wish to compete.

For the year ending June 1, 1913, there were offered: —

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The present volume, submitted in Class A, was awarded second prize in that class.

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INTRODUCTION

Education is the most important question in American country life; and, indeed, a distinguishing mark of present-day discussions is the prominence that is given to educational problems. Education lies at the foundation of democracy, and its progress is a vital concern of the common people. The layman to-day is taking a part in the discussion of educational matters second only to that of the man who has made them a life study. The schools are being submitted to the test of producing results, and are being required, as never before, to show returns commensurate with the money invested.

Educational methods and theories are undergoing change. Both the popular and the professional conceptions of education — that culture could be attained only through the gateway of an intimate knowledge of classical languages and literature — were long unquestioned. Educators themselves were largely responsible for this rigid conception. Consciously and unconsciously they established the idea that education consisted of the acquisition of a knowledge of Latin and Greek, and those things which had relation only to the intellectual and introspective life, with the result that people came to look upon the possession of such knowledge as the only means of giving to their children a better training for life than they had received themselves. We are now engaged in the process of modifying this conception — and, indeed, extremists are almost rejecting it — by recognizing the educational values that are received from a training in the science and art of modern industries and professions.

The goal in education to-day is doubtless but little changed from the past, but a new interpretation is being given to the term "culture," and pathways to education that are easier for the common people to follow are being opened. The new conception is based on a fuller understanding of the end to be attained, on the one hand, and of the people to be educated, on the other. This is making imperative a reconsideration of the content and method of a rational scheme of education.

AGRICULTURAL EDUCATION NOT AN ISOLATED QUESTION

Agricultural education is a phase of the broader problem of industrial education. In current educational discussions, however, the term "industrial education" has been interpreted to mean almost exclusively that form of training which will fit for participation in the mechanical pursuits of the factory and the workshop. In the discussions of education for industrial purposes agriculture has held a subordinate place, but the time has come when this basic human industry must receive adequate consideration. This is especially true because the influence of tradition is greater in agricultural processes than it is in other industries, and practical knowledge has been transmitted, with a modicum of theory, from father to son, resulting, too often, in bad farming, low ideals of living, and unsound business management. Governor Harmon of Ohio says, "While all other lines of our industries have received a great impetus from intelligent thought, agriculture seems to have been largely passed by. Too widely the idea prevails that all a man has to do is to scratch the ground, sow some seed into it, plough it once in a while, and trust the Lord to do the rest."

The education of the farmer is a matter that concerns the urban population as well as the rural population. Town and country are mutually dependent. The threads of our national life are now so interwoven that the problems of the country and the city cannot be wholly separated. The high cost of living is forcing city dwellers to investigate more closely the origin and the values of the products bought for the family table, and is inducing the farmer and the gardener to study the city market quotations, the cost of transportation, the influence of good roads, and related problems.

The city is dependent upon the country for new life blood and vigor to maintain its population and its industrial progress, while, on the other hand, the country constantly looks to the city for its markets, and largely, also, for its educational facilities and its amusements. Until recently the interests of town and country have been frequently regarded as antagonistic; but "the well-being of a people is like a tree: agriculture is its root, manufactures and commerce are its branches and its life; if the root is injured the leaves fall, the branches break away, and the tree dies."[1]

Agricultural prosperity is one of the most important factors in financial stability. This is shown by the fluctuations in the money market according to good or bad harvests. Business men must be brought to an active recognition of the fact that the success of farming operations means increased trade, and that farming determines more largely the general prosperity of the country than the success of any other industry.

It is sometimes said that the farmer should be able to look after himself, and it is assumed that aid given to agriculture will benefit the farmer alone. This is not the case; but even if it were, have not many other industries been subsidized? Witness the aid given to railroads, the granting of patents, and the establishment of tariffs in various forms, all of which may fairly be regarded as direct financial aids to industry.

The development of agriculture is a national question, not a local or individual one; and the reasons for so regarding it may be considered under the following heads: —

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[1] Plunkett, Sir Horace. *The Rural Life Problem in the United States.* Quoted, p. 44.

1. The economic value of the products of agriculture.
2. The number of persons engaged in the practice of agriculture.
3. Agriculture is the basic industry.
4. The consumption of agricultural products is rapidly overtaking the production.

THE ECONOMIC VALUE OF THE PRODUCTS OF AGRICULTURE

The Secretary of the United States Department of Agriculture, in his Report for 1904, says: "An occupation that is producing such unthinkable values as one aggregating nearly $5,000,000,000 within a year may be better measured by some comparisons. All of the gold mines of the entire world have not produced, since Columbus discovered America, a greater value of gold than the farmers of this country have produced in wealth in two years. This year's produce [1904] is over six times the amount of capital stock of the national banks. It comes within three quarters of a billion dollars of equating the value of the manufactures of 1900 less the cost of the materials used. It is twice the sum of our imports and exports for the year. It is two and a half times the gross earnings from the railroads. It is three and a half times the value of all minerals produced in this country, including coal, iron ore, gold, silver, lead, and quarried stone."

According to the latest available Canadian statistics, the products of agriculture in Canada amount to over $400,000,000, which is three times as great as the combined values of the products from forests, mines, and fisheries.

THE NUMBER OF PERSONS ENGAGED IN THE PRACTICE OF AGRICULTURE

The last census returns give the number of persons engaged in gainful occupations in the United States as 29,300,000, of which number thirty-six per cent are engaged in agricultural operations. This is the largest number engaged in any single group into which the industries are divided. Notwithstanding the remarkable growth of manufactures during the past twenty years, agriculture employs more people than any of the other industrial groups. In the United States, 53.7 per cent and, in Canada, 54.4 per cent of the population is classed as rural; and while it is not fair to assume that all the rural population are engaged in agriculture, or that all the urban population are engaged in the manufacturing industries, the proportions of the two afford an indication of the relative importance of the two types of industry.

AGRICULTURE IS THE BASIC INDUSTRY

Agriculture is not only the basic industry, but it is so closely related to the commercial and business enterprises that it cannot be wholly separated from them. Manufacturers are concerned with the supply of raw material, and they strive both to increase the supply and to provide substitutes when it threatens to fail. For example, the National Association of Paint Manufacturers is taking steps to secure greater production of flax seed, from which linseed oil is made.

An increase of only one bushel of grain per acre throughout the United States would require 12,500 extra trains of fifty cars each for transportation.[1] The great railway companies are fully aware that agricultural prosperity means increased business. This conviction is shown by their efforts to attract settlers, to develop the farm lands along their routes, and their practice of running well-equipped agricultural demonstration trains for the benefit of their patrons.

CONSUMPTION IS RAPIDLY OVERTAKING PRODUCTION

The President of the Michigan Agricultural College estimates that the population of the United States fifty

[1] New York State Department of Agriculture. Bulletin 35, p. 955.

years hence will be 200,000,000.[1] The annual yield in staple crops is not keeping pace with the increase in population. For example, while the corn crop of 1906 was the largest ever produced in the United States, the yield per acre was less than in 1872; and the same is true of wheat and other important cereals.[2] It is evident, therefore, that the additional food required to feed the increasing population can no longer be obtained by increasing the acreage under cultivation. It must now be procured by increasing the amount raised per acre.

The same condition holds in respect to all kinds of live-stock, both in the United States and in Canada. In the former country, from 1900 to 1910 all branches of live-stock breeding were diminished, and in Canada during the same period the number of horned stock exported was decreased by 80,000, and of sheep by more than 400,000; and whereas Canada used to export some twelve millions of poultry, it now exports none; it no longer exports eggs, although it once exported 11,000,000 dozens.[3]

THE PART EDUCATION MUST PLAY

The welfare of the nation depends much on the character and the extent of the means of agricultural betterment. It has been well said that agricultural returns are the barometer of national prosperity. It is now time that national and state legislatures, municipal organizations, and local societies of farmers and business men joined their forces to assist in giving to agriculture the assistance, encouragement, and direction which its importance warrants. As a national business investment, the expenditure of much larger sums in agricultural investigation, education, and demonstration could be made not only to give adequate returns in increased production, but to materially raise the standards of rural living and strengthen the nation as a world power.

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[1] Michigan Agricultural College. Bulletin, October, 1908, p. 10.

[2] *Ibid.*, p. 13.

[3] Jules Meline at Tenth International Congress of Agriculture.

Education by means of agricultural subjects, adapted to the needs of rural communities, is a much larger and more difficult problem than the education of the mechanic or the artisan. Agriculture is not one occupation but many complicated occupations, depending on many sciences and demanding many kinds of skill. It is a complex problem, involving, in the process of education, not only the primary consideration of making the farm pay, but also the revolutionizing of the business methods of farmers and the development of a higher social welfare.

The farmer is strongly conservative, owing largely to his individualistic training, and it is no small task to overcome his strong attachment to old and well-established practices. The first, and sometimes the hardest, of the educational problems is to lead him to see that the education of his children is at least as important as the fattening of his hogs. The task of arousing the farmer to this conception is not peculiar to any one country or generation. This is well illustrated by the fact that Sir Horace Plunkett found it necessary to address fifty meetings in order to persuade a single Irish community to start a coöperative creamery; and it was another twelve months before he succeeded in establishing a second.[1]

Owing to the complexity of the problem, many features not usually looked upon as pertinent to an educational discussion must enter into its consideration. Agriculture differs from most vocations in that it determines both the location of the home and the manner of living. For this reason, the study of vocational agriculture must include, in addition to technical training, the rights and duties of citizenship, the essentials of home-making and of community building, inasmuch as the country has a type of organization somewhat different from that of the towns.

[1] Plunkett, Sir Horace. *The Rural Life Problem in the United States.*

The prosperity of the rural districts is dependent almost as much upon the social advantages as upon the ability of the individual to grow crops and to raise stock. The problem to be considered is how the agricultural land may be made to produce an adequate food-supply for the rapidly growing population, while at the same time provision is made for such social and educational advantages as will induce the best of our country people to remain in the open country.

This main problem involves a number of subordinate yet closely related considerations, the chief of which are as follows:—

1. A system of education suited to local conditions and to the everyday experiences of country children, thus relating them to the opportunities surrounding them and developing their intellects through a reasonable agricultural and natural history outlook.

2. The adaptation of the education of the boy and girl, from fourteen to nineteen years of age, toward productive efficiency along agricultural and home-making lines.

3. The training of the adult farmer in methods of soil cultivation and farm management according to scientific principles, and the proper dissemination of the available knowledge on these subjects.

4. A serious consideration of the conditions of the farm home and the work that is carried on therein. Agriculture is a home industry, and the work of the woman plays a more important part than in any other industry. The drift from the country to the city is influenced greatly by the conditions of the farm home.

5. The development of sound business methods in all farming operations and the establishment of coöperative methods of farming, distribution of products, and buying of supplies. This entails consideration of the means by which the farmer may fairly obtain money for the extension of his operations.

6. An understanding of the social and economic advantages of good roads and other methods of transportation.

7. A re-vitalization and re-direction of country life in order that the higher aspirations of farmers may find their satisfaction in the richer life that the country may be made to offer.

The following pages will attempt, in some measure, to deal with the above problems.

AGRICULTURAL EDUCATION

CHAPTER I

AN HISTORICAL REVIEW OF THE DEVELOPMENT OF AGRICULTURAL EDUCATION[1]

In the advocacy of new schemes of education we are likely to forget the debt we owe to the pioneer workers who by their labors have made educational progress possible. Agricultural education owes much to the educators of the past, out of whose work it has grown, and its present status cannot well be understood without a brief review of its history.

SOME ANCIENT RECORDS AND EARLY DEVELOPMENTS[2]

Formal instruction in agriculture probably began with what may be considered a type of school-garden movement. In 1015 B.C., Solomon possessed extensive gardens in which all kinds of plants, "from the cedar tree that is in Lebanon even unto the hyssop that springeth out of the wall," were kept, probably for purposes of instruction and example as well as for adornment.

King Cyrus (559–529 B.C.) laid out in Persia the first school garden, in which the sons of noblemen were instructed in agriculture.

Aristotle (82–22 B.C.) understood the importance of agriculture and wrote as follows: —

> The first attention should be paid to that which is in accordance with nature: for by nature agriculture is first; next come all those things which are derived from the earth, such as mining and other arts of like kind.

---

[1] Bailey, L. H. *Cyclopedia of American Agriculture,* vol. 4. Consulted freely.

[2] Commissioner of Education of the United States. *Report,* 1898–99.

> But agriculture should be ranked first because it is just: for it does not derive its profits from men, either with their consent, like petty traffic, and the mercenary arts, or without their consent, like the arts which pertain to war.
>
> Further, also, agriculture is natural, for naturally every existing thing derives its nourishment from its mother, and so consequently men derive it from the earth.
>
> Moreover, it contributes much towards fortitude: for it does not make the body unserviceable, like the illiberal arts, but renders it fit to live and labour in the open air, and to run the risks of war against assailants. For husbandmen are the only persons whose possessions lie outside city walls.[1]

There is a legend that King Alfred established a school where farm boys were to be taught, and that this school was the beginning of Oxford University; but this lacks historical confirmation.

Many of the older European universities had gardens, which most likely were used for purposes of instruction. In 1525 A.D., Gaspar de Gabriel, a wealthy Italian nobleman, laid out the first garden of which there is record, in Tuscany, and this example was followed by many Italian cities, notably Venice, Milan, and Naples. Toward the end of the sixteenth century a botanical garden was established in Paris, "because the embroiderers of the court dresses needed new floral designs."

In 1534, the Jesuits established the principle of "interest" in education, and argued that learning should have some relation to living. Early in the sixteenth century, Rabelais taught that the individuality of the pupil should be considered, and that the materials for his education should not be drawn from books alone, but from the external world, from the heavens, the trees, and even from the usual occupations of men.

In 1651, there was published in London a small pamphlet, by Samuel Hartlib, entitled "An Essay for the Advancement of Husbandry-Learning: or Propositions for the Erecting a Colledge of Husbandry: and, in order thereunto, for the taking in of Pupills or Apprentices. And also Friends of Fellowes of the same Colledge or Society." The author proposed that such a college should have four professors, one of whom should be sent to Asia, one to Europe, one to Africa, and one to America to study, and that they should retract whenever they taught anything that should be proved erroneous.

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[1] *Economics*, book 1, chap. 2.

About 1650, Milton's "Tractate of Education" was written to Hartlib. The educational method advocated in it was largely reading. The authors chosen "would be the Authors of Agriculture, Cato, Varro, and Columella; for the matter is most easy, and if the language be difficult, so much the better, it is not a difficulty above their years: and here will be an occasion of inciting and enabling them hereafter to improve the tillage of their country, to recover the bad soil, and to remedy the waste that is made of good; for this was one of Hercules's praises."

Comenius (1592–1671) would "fit youth for the investigation of the causes of things." He would know the external world: "Come forth, my son," he says, "let us go into the open air. There you shall view whatsoever God produced from the beginning and doth yet effect by Nature." In his "Didactica Magna" he maintains "that a garden should be connected with every school, where children at times can leisurely gaze on trees, flowers and herbs, and be taught to enjoy them."

Jean Jacques Rousseau pointed out the importance of garden work as an educational factor in his "Émile," published in 1762, and Salzman (1744–1811) wrote, "School gardens have been laid out neither to draw the attention of passers by, nor to give great returns, but to instruct."

For some time Pestalozzi was a farmer and employed his wards at Neuhof with field and garden work. "I wish," he said, "to make my estate the central point of my agricultural and educational efforts."

Fellenberg, the Swiss educator (1771–1844), established a school at Höfwyl. He took great interest in the peasantry of his country. The avowed object of his school was definitely to train the pupil for his trade or occupation. Agriculture was to be the basis of the school.

In 1761, the National Society of Agriculture in France advocated the appointment of agricultural professors, and charged several of its members with the mission to arouse and enlighten public opinion with reference to agricultural affairs. As a result of this campaign some large landowners were induced to establish schools of agriculture. In 1763, a school was organized at La Rochette and, in 1771, another was established near Compiègne. In 1800, François de Neufchâteau, a former Minister of the Interior, who had in mind the dangers to European agriculture from American competition, laid before Napoleon an elaborate scheme for agricultural education which he had copied from the Abbé Rozier, who had promulgated it in 1770; but, though it was in the main approved, it was never carried into effect.

Campe (1746–1818), together with his wards, planted about ten thousand trees during his lifetime. In 1840, Froebel, who founded the first kindergarten at Thuringia, recommended light gardening as one of its occupations.

Agriculture was placed on the program of the French schools as an elective in 1850. In 1866–67, after a series of bad harvests, an extended inquiry was held, with the result that schools of agriculture and horticulture were established in 1873. The Institut National Agronomique was reopened in Paris in 1876, and in 1879, the elementary principles of agriculture were included among the obligatory studies of primary instruction. This was confirmed by the law of 1882, which organized agricultural instruction in the primary, normal, and superior schools of the country.[1]

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[1] Commissioner of Education. *Report*, 1905, vol. 1, p. 87.

Mulhall says, "It is hardly too much to state that Hungary has done more than any other country in the way of agricultural schools." The third of these schools, established in 1797, was for a long period the model agricultural school in Europe. In 1848 it was suppressed by the Austrian Government because all the professors and pupils took part in the struggle for independence under Kossuth. The present complete system of instruction in that country dates from the year 1850.

The work of Albrecht Thaer in Germany marks an epoch in the history of German agriculture. On his farm at Celle, in Hanover, he applied science and sound business methods so successfully that farmers from all over the Continent came to visit it. To these visitors he began to give agricultural instruction in 1802, and out of the instruction so begun, grew the Agricultural Institute of that town. In 1806, he founded the agricultural school at Moeglin, near Berlin. This was raised to the Royal Academy of Agriculture in 1824.

THE CONTRIBUTION OF AGRICULTURAL SOCIETIES IN AMERICA [1]

Societies and organizations of farmers and others interested in agriculture have played a large part in determining policies and stimulating progress. The first society for the promotion of agriculture was organized at Philadelphia on March 1, 1785, and on the 4th of July of the same year George Washington and Benjamin Franklin were elected members. At the same time, a similar society was formed in South Carolina. This organization, among other steps, proposed to establish an experimental farm, which suggestion was, as far as is known, the first of the kind in American history.

In 1791, the New York Society for the Promotion of

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[1] Dabney, *Agricultural Education.* Monograph 12. St. Louis Exposition, 1904.

Agricultural Arts and Manufactures was established, and its first volume of Proceedings was published in 1792. In this year the Massachusetts Society for the Promotion of Agriculture was formed, and in 1794 a similar society was established in Connecticut.

In 1794, the Philadelphia Society appointed a committee "to prepare a plan for establishing the State Society for the promotion of agriculture, connecting with it the education of the youth in that most important art." One of the suggestions of this committee was "the endowment of professorships, to be annexed to the University of Pennsylvania, and the College of Carlisle, and other seminaries of learning, for the purpose of teaching the chemical, philosophical and elementary parts of the theory of agriculture." Another suggestion was to use the public school system of the State to educate the farmer in his business, "the country school masters being made Secretaries of the County Societies and the school houses the place of meeting, and the repositories of their transactions, models, etc. The legislature may enjoin on these school masters, the combination of the subject of agriculture with the other parts of education. This may be easily effected, by introducing, as school-books, those on this subject; and thereby making it familiar to their pupils." These suggestions were not carried out, but that does not detract from their significance. This was probably the first formal effort made in the United States to present the claims of agricultural education to a legislature, and to incorporate instruction in agriculture in the course of study for the primary school. It is interesting to note that these resolutions, more than one hundred and twenty years old, are strangely in harmony with present-day ideals: rural schools as community centers, correlation of agriculture with other school subjects, and agricultural textbooks.

In 1801, a member of the Massachusetts Society suggested that agricultural fairs should be held at Cambridge in the spring and in the fall, and premiums should be given for farm products. This suggestion was not acted upon, however. Dr. Thornton, the first Commissioner of Patents at Washington, suggested in 1804 that the sale of agricultural produce and of cattle would be promoted by the holding of fairs after the English manner. As a result of the suggestion, the "National Intelligencer" of that year reported that fairs were held "in the Mall on the South side of the Tiber." The first fair proved such a success that the citizens themselves raised the sum of $50 for premiums for the next one, which was held in April, 1805. The third one, held in November of the same year, appears to have been the last.

In 1809, the citizens of Maryland, Virginia, and the District of Columbia formed the Columbian Agricultural Society, which for many years was actively engaged in educating the farmer, mainly through the agency of fairs.

In 1817, the Berkshire Agricultural Society, on the motion of Elkanah Watson, presented a memorial to Congress praying for "the establishment of a National Board of Agriculture in accordance with the original suggestion of President Washington." The bill reported to the House of Representatives was promptly defeated by a large majority.

These agricultural societies were generally open to all interested in agriculture, whether actively engaged in its practice or not. Certain other organizations, designed especially for farmers, have grown up. Foremost amongst these are the Grange (1867), the Farmers' Alliance (1875), the Farmers' Union (1885), and the Patrons of Industry (1887). The Farmers' National Congress has met annually since 1880 and has considerably influenced legislation for the benefit of rural communities.

One of the earliest results of the formation of these societies was frequent discussion of experiments to be conducted for the betterment of agricultural practice. Various kinds of model farms, test-grounds, and seed-control stations have grown out of the agricultural societies. In Europe, these experimental institutions began to separate themselves into distinct organizations about the middle of the past century. Early American institutions were planned after the experiment station organized in 1851 at Moeckern, near Leipzig.

THE DEVELOPMENT OF AGRICULTURAL TEACHING IN THE UNITED STATES

Now let us consider some of the more definite and organized early attempts to establish agricultural education in the United States. The early attempts were not always received with approval; even the free common school system was bitterly opposed to the encroachment of agriculture. As late as 1671, Governor Berkeley, when questioned concerning the status of education in the Colony of Virginia, said, "I thank God there are no free schools, nor printing, and I hope we shall not have these three hundred years, for learning has brought disobedience, and heresy, and sects, into the world, and printing has divulged them, and libels against the best government: God keep us from both."[1]

One of the earliest advocates of agricultural education was Benjamin Franklin. In his "Proposals Relative to the Education of Youth in Pennsylvania," issued in 1749, he wrote, "While they are reading natural history, might not a little gardening, planting, grafting, and inoculating be taught and practised, and now and then excursions made to the neighbouring plantations of the best farmers, their methods observed and reasoned upon for the information of youth, the improvement of agriculture being useful to all and skill in it no disparagement to any?"

In 1751, a prospectus was issued by William Smith containing a plan designed as a model for colleges. This plan provided for instruction in the chemistry of agriculture and was carried out to some extent in the Philadelphia Academy (University of Pennsylvania).

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[1] Dexter, *History of Education in the United States*, p. 10.

In the original prospectus of King's College (Columbia University), "husbandry and commerce" and "agriculture and merchandize," are mentioned in the "Laws and Orders" adopted by the Governors, June 3, 1755. In 1792, the Chair of Botany and Agriculture was held by Samuel Latham Mitchell, M.D. In describing a summer course in botany Dr. Mitchell says: "An attempt is made by the Professor, who is a practical farmer, to elucidate and expound the economy of plants, their affinity to animals and the organization, excitability, stimuli, life diseases, and death of both classes of beings. The physiology of plants . . . is therefore particularly enlarged upon as connected with gardening and farming."

The first agricultural school in North America,[1] with the exception of the "Lesser Seminary," to be afterwards noted, which did actual work was probably the Gardiner Lyceum established at Gardiner, Maine, in 1821. The first term of school began January 1, 1823, with twenty pupils. In 1825, the legislature appropriated $1000 a year for three years. In 1828, this grant was extended for three years longer. This was probably the first state grant made in the United States for agricultural and technical education. In 1824, the school had an attendance of fifty-three persons. That year a boarding-house was erected at which students could have board and washing for $1.25 a week, and a room furnished with chairs and tables and a cot and mattress for each individual for twenty-five cents a week. In 1825, there were one hundred and twenty students. The school continued with varying success till 1832, when it had to be closed owing to lack of public support.

In 1825, a school was established at New Harmony, Indiana, by William Maclure, in connection with the socialistic experiment known as the "New Harmony Movement." Maclure placed the school in charge of Joseph Neef, who had been brought to Philadelphia in 1806 with the object of introducing the methods of teaching advocated by Pestalozzi. Ample equipment, consisting of dormitories, books, museums, shops, experimental plots, and other facilities, was provided, but owing to religious strife and intolerance the experiment was not successful.

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[1] United States Bureau of Education. Bulletin 6. 1913.

From 1827 to 1834, the Oneida Manual Labor Institute was conducted by George Washington Gale. The instruction included practice in both carpentry and agriculture.

In 1838, six thousand signatures were attached to a petition sent to the legislature of the State of New York praying for the establishment of an agricultural school. The committee to which the petition was referred deplored "that there is no school, no seminary, no department of any school in which the science of agriculture is taught." [1]

In 1847, a professorship of Agricultural Chemistry, Vegetable and Animal Physiology, was established at Yale.

In 1857, the Michigan State Agricultural College was founded at Lansing, with 676 acres of heavily timbered land. This was the first of the Agricultural and Mechanical Colleges, which, owing to the encouragement of the Land Grant Act, are now to be found in every State in the Union.

Public school agriculture began with the school-garden movement in Germany about eighty-five years ago. The organized effort now in progress in the United States to introduce the subject into the elementary schools dates from about 1900, although the value of the subject was recognized as early as 1824. In a preface to the earliest textbook, "The Agricultural Reader Designed for the Use of Schools," by Daniel Adams, M.D., Boston, published in 1824, the author quotes Dr. Apthorp to the effect that "Agriculture and the Gospel are the two great instruments of Divine Providence to check the voluptuousness and exercise the virtues of man."[1]

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[1] Dabney, *Agricultural Education.* Monograph 12. St. Louis Exposition, 1904.

THE GROWTH OF THE MOVEMENT IN CANADA

Apparently agricultural education in North America had its beginning in the farm school established by François de Laval, the first Bishop of Canada, about 1668, or near that date. He established the "Lesser Seminary," where "the children of artisans and peasants were taught farming, and the various mechanical arts, and thoroughly grounded in the doctrines of the Church."[2] According to Parkman, the school had not much success in the direction indicated.

In 1836, a school bill was introduced into the Legislative Assembly of Upper Canada "to authorize the trustees of any school district to raise, levy, and collect the moneys as voted, and therewith to lease or purchase a lot or parcel of land or farming utensils, seeds, grains and grasses for the use of the teachers of the school, or to be annually apportioned among the scholars of the school or otherwise employed and occupied for the profit and instruction of the school, or parts thereof in horticulture, agriculture, or in otherwise growing plants, fruits, grasses, and grains as the Trustees, together with the school teacher for the time being, may think fit."[3]

In 1847, when the first normal school was established at Toronto, arrangements were made to give the subject of agriculture a prominent place. Daily lectures were given in agricultural chemistry, demonstration plots were laid out, and practical experiments in field crops and fertilizers were conducted. In 1849, Lord Elgin, the Governor-General, offered two agricultural prizes of five pounds and three pounds, respectively, to the two students who should at the end of each half year pass the best examination in the subject of agricultural chemistry.[1]

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[1] State Superintendent of Public Instruction, Nebraska. *Report,* 1910.

[2] Parkman, *The Old Régime in Canada.*

[3] *Documentary History of Education in Upper Canada,* vol. 2, p. 322.

In 1846 an agricultural reader designed for the use of schools was published by Mr. John Simpson of Niagara Falls. In 1870, the second textbook was issued. This was Dr. Ryerson's "First Lessons in Agriculture." The third textbook was "Public School Agriculture," by Mills and Shaw. This was authorized by the Minister of Education for use in the public schools of Ontario, and was the first official recognition of the subject in elementary schools. In 1898, the fourth textbook, "Agriculture," by C. C. James, now Commissioner of Agriculture for the Dominion, was published, and authorized for use in "any high school or public school in Ontario, if so ordered by the Trustees."

Agricultural colleges, the first of which was established in 1874, are now at work in every province. One of these, at Guelph in the Province of Ontario, is of world-wide reputation.

In 1893, the first summer school for teachers was held at the Ontario Agricultural College. Thirty-four teachers attended, and they received four weeks of instruction in agriculture. Owing to certain changes in the regulations regarding the teaching of the subject in the schools, only seven teachers attended the next year and the classes were discontinued.

In 1899, the regulations amending the public school course of study made agriculture obligatory in rural schools in forms 4 and 5. In form 5 a textbook was to be used, and in form 4 the subject was to be taught by conversation. Since 1899, great progress has been made, as will be shown in later discussions.

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[1] *Documentary History of Education in Upper Canada,* vol. 8, p. 257.

NATIONAL LEGISLATIVE ENACTMENTS IN THE UNITED STATES

The more important legislative enactments which have made progress possible, particularly in the direction of higher education, may now be considered. In 1836, the Patent Office was made a separate bureau, and Henry L. Ellsworth, a practical farmer of Connecticut, was made Commissioner. He found one of his duties to be the distribution of seeds and plants. So impressed was he with the needs of the people of the Western prairies, that without the authority of Congress, and outside of business hours, he collected seeds and plants which he distributed to farmers in all sections of the country, but especially to those in the West, using the postal franks of members of Congress for this purpose. An appropriation of $1000 was made by the Twenty-fifth Congress from the Patent Office Fund, "for the purpose of collecting and distributing seeds, prosecuting agricultural investigation, and procuring agricultural statistics." The first separate appropriation made by Congress for agriculture was in 1854, when the sum of $35,000 was voted.[1]

The Morrill Acts. — December 14, 1857, may be looked upon as the "red-letter" day in agricultural education in the United States. On that date, Justin S. Morrill introduced his first bill into the National Congress. This authorized the establishment of colleges in all the states, and for their maintenance provided 20,000 acres of public lands for each member of Congress. The bill was referred to the House Committee on Public Lands, which presented an adverse report. Notwithstanding this, the bill passed both houses at the following session, but was vetoed by President Buchanan. In December, 1861, Mr. Morrill introduced a new bill in which the 20,000 acres was increased to

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[1] Dabney, *Agricultural Education.* Monograph 12. St. Louis Exposition, 1904.

30,000. In spite of another adverse report by the House Committee, the bill passed both houses and was approved by President Lincoln. The circumstances were dramatic, and history hardly presents a parallel. In the midst of the excitement of a great war, the people paused to give adequate consideration to the question of providing means for the establishment of a sound system of agricultural education.

The object of the grant is expressed in terms so broad that they have led to considerable controversy. The purpose of the act was to provide for "the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

The second Morrill Act was approved by President Harrison on August 30, 1890, and provided $15,000 annually, with an increase of $1000 each year until the appropriation should become $25,000 to each State, the money to be taken out of the funds derived from the sale of public lands. The act says that this sum is to be applied "only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural, and economic science, with special reference to their application in the industries of life, and to the facilities for such instruction."

The establishment of the Department of Agriculture in the United States. — In the same year (1862) that the first Morrill Act was passed, the Department of Agriculture was established, but not as an independent department of the Government. Its chief officer was styled "Commissioner of Agriculture." By the act creating the department, the duties of the department were "to acquire and diffuse among the people of the United States useful information on subjects connected with agriculture in the most generous and comprehensive sense of the word, and to procure and propagate among the people new and valuable seeds and plants." In 1889, the Department of Agriculture was raised to an executive department and its chief officer, the Secretary of Agriculture, was given a seat in the President's Cabinet.

The Experiment Station Acts. — Next in importance to the Morrill Acts comes the Hatch Act of 1887. This act appropriates $15,000 to each State for the purpose of conducting experiments and research. In 1888, the Office of Experiment Stations became a separate bureau of the Department of Agriculture to serve as the official head of all the experiment stations receiving the benefits of the act. There had been experiment stations before this. The first one supported by the State, was in Connecticut, where an appropriation therefor was made by the legislature in 1875. Prior to 1888, there had been twenty experiment stations in the United States, but in that year alone, owing to the encouragement of the Hatch Act, twenty-six new ones were established.[1]

The Adams Act of 1906, provides still further aid for research. This act appropriates $5000 annually, with an increase of $2000 each year until the sum of $30,000 shall have been reached. When the Adams Fund has matured, the United States Government will be appropriating about one and a half million dollars annually for experiment station work. In addition to this, the individual states are now appropriating more for research than the Federal Government appropriates.

The Smith-Lever Bill. — This act for the encouragement of agricultural extension was approved May 8, 1914, by President Wilson. One college in each state, to be designated by the Governor as the recipient of the funds, is to receive perpetually from the Federal Government $10,000 annually without requiring an additional appropriation from the State. The act also makes provision for additional annual appropriations, based on the rural population. To share in these additional funds, the State must duplicate the additional amount granted by the Federal Government. The purpose of the act is to provide for coöperative agricultural extension work. The instruction is to be given only to persons not attending or resident in any of the colleges. None of the money is to be used for "the purchase, erection, or the repair of buildings, or the purchase or rental of land, or in college course teaching, promoting agricultural trains, or other purposes not specified in the act, and not more than five per cent of each annual appropriation shall be applied to the printing and distribution of publications." This act marks the third great step in federal aid to agriculture.

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[1] Carver, *Principles of Rural Economics*, p. 108.

Such, in brief, is the history of the movement. The agricultural colleges and experiment stations are now on a solid foundation and their progress is assured. The country is now in a position to devote itself to the no less important problem of primary and secondary agricultural education, to which the National Congress is already addressing itself.

CHAPTER II

SOME CONDITIONS OF RURAL LIFE

The economic and social conditions of rural life affect progress in education. This being so, and it seems generally admitted, it becomes pertinent to inquire what these conditions are and, in so far as they are hindrances to progress, how they can be improved.

THE DECLINE IN RURAL POPULATION

The decline in rural population is the first condition which we may consider. From the prominence given to its discussion in recent years, it would almost appear that we are faced with a new problem. In the United States the decline has been most marked since 1880; but it is an ancient problem. Plutarch, in his "Præcepta Politica," protested against the threatened invasion of cities. Cicero deplored the de-population of rural districts. Before the Christian era, the Roman Emperor Augustus saw that his empire was being undermined and the strength of the nation sapped by the migration of people from the country to the city, and he summoned the poets of the nation to sing of the beauties and profits of country life in order to entice people back to the land.[1]

In the United States the decline in population is shown as follows:[2] —

	1910 %	*1900* %	*1890* %	*1880* %
Urban	46.3	40.5	36.1	29.5
Rural	53.7	59.5	63.9	70.5

During the last census period (1900–10), the increase in urban population was 34.8 per cent, while the increase in rural population was only 11.2 per cent.

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[1] First District Normal School, Kirksville, Missouri. Bulletin. 1911.

[2] Thirteenth Census of the United States. *Population.*

Canada, although a much younger country, has already begun to show the same tendency.[1] From 1901 to 1911, the urban population increased 62 per cent, while the rural population increased only 17.6 per cent. This difference between the urban and the rural increase is all the more striking when it is remembered that during this period large tracts of virgin land were opened up for settlement. The prairies are looked upon as almost purely agricultural, yet Saskatchewan added 389 per cent to her rural population, and 648 per cent to her urban population. Alberta, while adding 489 per cent to her rural growth, increased by 588 per cent in urban growth. Manitoba, rich in unoccupied land, added 70,511 to her farms and hamlets, while to her villages, towns, and cities were added 129,892. The Province of Quebec, although largely agricultural, gained 39,951 in the rural districts, but added 313,863 to the city population.[2]

The Canadian Royal Commission on Industrial and Technical Education, following its investigations, reported this tendency observed in every country visited, with the single exception of Denmark.[3]

The President of the Georgia Club, at the Athens State Normal School, writes, "This loss of population menaces every business and social interest in the rural districts. Stores and dwellings become vacant, rents decline, trade drops off, land values decrease, tenants become restless, schools and churches dwindle, life and enterprise drops into stagnation and decay. Witness the 282 pastorless churches in Maine, many of them used as cheese factories, road houses, and dance halls. . . . Witness in Iowa the 2500 country schools in which the attendance has dwindled to ten pupils or fewer. Witness the 1032 pastorless churches of one denomination in the South, and the 1600 abandoned churches in Illinois."[1]

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[1] Census of Canada, 1911, vol. 1.

[2] Macdougall, John. *Rural Life in Canada.*

[3] Royal Commission on Industrial and Technical Education. *Report,* parts I and II. Ottawa, 1913.

THE SHIFT IN RURAL POPULATION

The moving country population is composed mainly of three distinct classes: —

1. Those who move from the country to the city or town. To some extent this movement will always be inevitable. It will probably be considerably lessened when a more even balance is struck between the educational, social, recreational, and economic conditions now existing in the country and in the town. Many farmers who have acquired a competence retire from the farm to the city. As a rule this removal is disappointing to all parties concerned. The farmers themselves find it difficult to pass their time profitably, owing to the absence of their lifelong activities; the communities into which they move do not absorb them into their social and municipal life; and the districts from which they come are deprived of the guidance and support which their experience should enable them to give.

2. Those who move from the farms of the older to those of the more newly settled parts of the country. In the midst of prosperous industrial districts offering great markets, much land that was once cultivated now lies idle, owing to the failure to fertilize. This loss of fertility is fast becoming a serious problem. In 1911, an agricultural survey was made into the condition of 1912 farms scattered throughout the Dominion of Canada. The report of this investigation states that, "in most of the Provinces the farmers are living on the accumulated capital which nature provided in the soil, leaving their lands poorer because they had been on them." Even in Manitoba, 46 per cent of the farmers acknowledge a marked decrease in the amount produced per acre. The area under cultiva-

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[1] Conference for Education in the South. *Proceedings* of Fourteenth Annual Meeting.

tion in the West — Manitoba, Saskatchewan, and Alberta — increased 269 per cent in the last decade, while the amount produced increased only 185 per cent.[1]

Since 1900, in the United States the yield of wheat has ceased to increase, while the number of mouths to be fed has increased from 65,000,000 to 92,000,000. The exports of wheat, up to 1903, were, on an average, some 198,000,000 bushels, whereas to-day they stand at scarcely 55,000,000 to 70,000,000.[2] It is said that "within a hundred miles of the spot where the first permanent English settlement was made, in what is now the United States, one can to-day buy hundreds of thousands of acres of arable land at less than $10 per acre — land that was once valued at $50 per acre, and which would be now worth more than $100 had its fertility been maintained."[3]

3. Those who are moving back from the West to settle on Eastern farms. This migration is rapidly becoming important. In some sections of New York State, for example, more farms are being sold to farmers from the West than to any other class of buyers.

THE WITNESS OF THE COUNTRY CHURCH

The condition of the churches in the rural districts is another evidence of this decline in population. The Ohio Rural Life Survey of 1912 shows that there were eight hundred abandoned churches in that state. There is not a county in the state in which one half of the congregations are even holding their own in numbers. In several counties not ten per cent are growing. In ten counties, with a total of three hundred and ninety-four congregations, not one twentieth of the churches had resident ministers. The ministers live in towns and go to the country to preach, returning to town at the earliest possible moment; consequently, their outlook is urban, not rural. Ninety-six townships in these ten counties, comprising nearly four thousand square miles, are without a resident minister in the rural districts.

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[1] Commission of Conservation. *Report*, vol. III, p. 57. Ottawa, Canada.

[2] Meline, M., Tenth International Congress of Agriculture.

[3] American Academy of Political and Social Science. *Annals*, p. 631.

In the State of New Hampshire, 209 churches do not raise over $500 for ministerial salaries, 112 raise less than $400, 65 less than $300, 25 less than $200, and a few others less than $100. Forty-one per cent of the leading denominations in this state do not raise an amount for ministers' salaries equal to the wages of common labor. An investigation made in 1910, shows that outside of one hundred of the large centers, the salaries of Methodist ministers average $573 a year.[1]

According to a recent editorial in the "Outlook," 210,000 church buildings are now out of use in the United States, as an indication of changing beliefs and conditions, and there are 10,000 more that ought to be out of use.[2]

A remarkable likeness exists between the character of the rural churches in America and the type of agriculture which prevails. "In the pioneer stage, agriculture has consisted very largely in harvesting the soil, and very little attention has been paid to soil building. Similarly, the pioneer churches have too generally followed the plan of harvesting a membership by revivalistic methods, and have given too little attention to membership building. . . . They seem to have relied more upon making converts among mature reprobates than upon the training of successive generations of boys and girls into good neighbours, into efficient farmers, — in short, into good citizens, such as build up a community, increase the production of its farms, and make it a desirable place in which to live."[3] Statistics have been cited to show the parallelism of church and farm as regards prosperity.

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[1] Macdougall, John. *Rural Life in Canada.*

[2] Carney, Mabel. *Country Life and the Country School.*

[3] Carver, Thomas Nixon. *Principles of Rural Economics.*

SOME CONTRIBUTING CAUSES OF THE DECLINE IN POPULATION

Among the causes that may be cited to account for this decline in rural population are the following: —

The number of men required on the land is less than formerly. — The use of improved machinery on the farm has reduced the number of units of human labor required on the land to produce a given quantity of food below that formerly required. The reduction of the farming population of the United States from 70.5 per cent in 1880, to 53.7 per cent in 1910, represents a change from agriculture to other occupations of a very large number of people. The effect of the introduction of machinery is to displace labor or to increase production, or both. The sower is no longer seen in the field. Machines accomplish, in one fifth to one quarter the time, the work that the old hand-sower could do. The modern harvester does the work of eight men, while the threshing machine displaces 14 to 29 farm laborers.[1] Professor Fiske has said, "It was a dramatic moment in history, when at the Paris Exhibition of '55 a hopeless contest was waged between six sturdy workmen with the old hand-flail, and threshing machines from four different countries. In the half-day test the six men threshed out by hand 60 liters of wheat, while a single American with his machine threshed 740 liters, and easily led all contestants."

Fifty years ago it required four and a half hours of labor to produce a bushel of corn; now it requires about 41 minutes. The cost then was 35¾ cents, now it is 10½ cents. Thirty-five and one half hours were then required to produce a ton of hay, now only eleven hours and thirty-four minutes are required; and the difference in the cost is $1.77. The cost of labor saved in the production of corn, wheat, oats, rye, barley, and hay, compared with fifty years ago, is estimated to be $681,000,000.[2]

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[1] Fiske, Walter. *The Challenge of the Country.*

[2] Bailey, Liberty Hyde. *Cyclopædia of American Agriculture,* vol. 4.

The highest mechanical genius is now being devoted to the invention and improvement of farm machinery, and with steam, electric, and other power coming into general use, the rate of decline of the rural population from this cause may be still further accelerated.

Lack of social opportunities. — Lack of social opportunities and intellectual stimulus, owing to the isolation of farm life, is another contributing cause of rural decline. Rural life on the North American continent differs considerably from that in the older parts of the world. There the people dwell in hamlets and villages; here, on isolated farms. In Canada, the farm homes are farther apart than anywhere else in the world. In the most populous province there are counties with 13.1 and 9.2 persons to the square mile, while the rural population of the United States is 15 to the square mile.[1]

The President of the Georgia Club states that letters sent some time ago to the superintendents of state insane asylums, revealed the fact that seventy to ninety per cent of the patients were the wives and daughters of farmers. Their presence in the asylums is due, in part at least, to the state of isolation in which they have lived.[2]

Fortunately there are signs that this state of isolation is being rapidly changed. Rural mail delivery, the farm telephone, radial lines through the country districts, are all bringing about great changes without materially robbing the farm of its manifest advantages for family life. If these advantages can be extended to every rural community and the evils of isolation reduced to a minimum, other rural problems will be rendered much easier of solution.

In the effort hitherto put forth to improve farm conditions, we have been training our youth to be merely better producers. This is, of course, the first thing to be done; but the man is only half trained when this is done. He must be trained, as a man, to devote his energies towards the development of a new social order in the open country.

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[1] Macdougall, John. *Rural Life in Canada.*

[2] State Normal School, Athens, Georgia. Bulletin, *Our Country Life Problems.*

Lack of educational opportunities is also a contributing factor. The art of agriculture will never rise higher than the intellectual status of the men who are engaged in it, and thus the education of the farmer becomes of great importance. The Country Life Commission, reporting to the President of the United States in 1909, states that "all difficulties resolve themselves in the end into a question of education."[1]

In the United States there are five and a half million illiterates, and millions more little above the line of total illiteracy. Of the 5,516,163 children over ten years of age unable to read and write, 1,768,132 are in urban communities, and 3,748,031 are in rural districts. That is to say, 5.1 per cent of the urban population is illiterate, but practically twice this proportion, 10.1 per cent, of the rural population is illiterate.[2]

The above figures show the condition to some extent, but they do not tell the whole story. This lack of opportunity to get anything beyond the most elementary training, drives all those who wish to obtain any higher education to the cities and towns. The Kentucky State Supervisor of Rural Schools says that out of more than eleven hundred cases of removal to the city that he personally investigated, over one thousand were brought about by a desire for school or church or social advantages.[3]

It is not only the educational advantages, obtainable in school, that are lacking, but also other intellectual pursuits. For example, there are one and a half millions of people in New York State without access to books, and a million in each of the states of Wisconsin and Minnesota, notwithstanding the fact that active agencies for library extension have been in operation for many years. The replies received by the Delaware State Library Commission prove that a great majority of rural families in that state own but few books, — and these not standard works in the estimation of librarians. Many families own no books, except the Bible, and twenty per cent of them take no periodical, not even a newspaper.[1] Recognizing the influence of good books, the majority of the states are now engaged in rural library extension work.

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[1] Senate Document 705. Sixtieth Congress.

[2] *Illiteracy in the United States.* United States Bureau of Education. Bulletin 20. 1913.

[3] *Education in the South.* United States Bureau of Education. Bulletin 30. 1913.

Lack of opportunities for amusement and recreation. — This also plays a part in the movement under consideration, particularly in the case of the youth. Generally it may be said that the country does not provide amusements of any kind, good or bad. The city supplies both. Many a boy has left the farm, not because of the hard work, but because he experienced nothing but hard work. Any one who has visited a small town in the midst of a rural region, in Canada or in the United States, on Saturday afternoon or any popular holiday, and witnessed the crowds of young men and women from the country entering the moving-picture shows, can appreciate the craving for amusement and excitement which has taken possession of their minds owing to the lack of any healthy excitement in their daily routine.

We need a broader development of rural recreation, but it should be evolved out of rural conditions and not transferred without modification from the city. There is apparently no organization in the country which feels called upon to provided facilities for healthy amusement and recreation.

The popular estimation of the farmer. — The estimation in which the farmer is held by the community at large, is probably responsible for the refusal of a number of boys and girls to take up life on the farm. The farmer is often held in good-natured contempt. The stage farmer is usually one of the least desirable characters. As portrayed in ordinary literature, the farmer is generally a poor specimen of humanity, and farming is not looked upon as an avenue to popular distinction.

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[1] Commissioner of Education. *Report*, 1912. United States Bureau of Education.

While the people of the towns and cities are not wholly blameless for this conception, the rural people themselves must take the greater share of the blame. The majority of farmers do not take sufficient pride in their occupation or their appearance. They look upon country life as a condition from which they must escape at the earliest opportunity.

The influence of home opinion, also, is very great. The estimates of the farm fireside have militated against the quality of country life. Many a farmer and his wife points with pride to one son who has met with success in trade, commerce, or professional life, and forget to extol the work of another son, who by staying on the farm has made its continuance possible. The young man who has stayed at home may have conquered conditions more stubborn and complex than any that have been met with in the city, and may have made a much greater contribution to the welfare of the community; but owing to the prevailing false estimate, he has not received equal recognition.

It is earnestly to be desired that the American farmer should take a greater pride in his personal appearance, exalt his occupation on every occasion, and seek by legitimate means to acquire a greater influence in the councils of the nation than he now possesses.

The boy on the farm as an unpaid hand. — The treatment the boy on the farm receives, in regard to financial matters, also has its influence. Many a boy and girl feels humiliated at having to ask parents for every cent they require. As soon as they are old enough to take an active interest in the affairs of the farm, they should be given a share in the income. The farmer often thinks that because in his estimates he makes no allowance for the labor of himself and his wife, it is not necessary to do so in the case of his children. The children look upon the matter in a different light. Many of their companions go to the cities, and not only bring back on their visits accounts of the city's many attractions, but they also speak of the money they can earn and what they are able to do with it.

The farm boy and girl should be allowed to begin earning at least two years before they are to leave school. There are always, of course, a number of miscellaneous chores to be done, but the children should not be restricted to these. They should be allowed to undertake something from which they can see a prospect of financial gain, such as rearing a calf or a pig, cultivating an acre, making butter or growing fruit, and be permitted to keep the profit arising from the venture. Cases have been known in which a boy has raised a calf which sold at a good profit, and the only recompense received was the gift of another calf on which he was expected to repeat the process.

Why should not the boy who remains on the farm, and the girl who stays in the farm home, be given a definite wage for the work they do? The amount need not be large, but it would lessen the difference between them and their city friends. "Such a practice started in the neighbourhood would go far towards breaking up the old habit, not yet extinct, of working the boy as an unpaid 'hand' and giving him no interest in the proceeds, a custom that has driven untold thousands off the land."[1] The boy must be shown that agriculture, properly conducted, is economically profitable, or he will not be inclined to stay on the farm. Instead of asking why the boy leaves the farm, we should rather ask why he should stay on the farm. What has it to offer him?

[1] State of Illinois. *Report* of Educational Commission, 1911, p. 82.

The decay of village industries. — If we compare the typical village of thirty years ago with that of to-day, we shall find that the carpenter, the wheelwright, the wagon-maker, the blacksmith, and many other prominent craftsmen have disappeared. In the old days the farm home was self-contained, and produced within its own limits nearly everything required for a happy and contented life. Now, owing to the absence of these and other industries, workmen have to be sent for in the town; and farm machinery, appliances, homes, and buildings, are in many cases in a dilapidated condition owing to the difficulty of obtaining the necessary workmen and the inability of the farmer to make small repairs when they are needed. The village store, which in the old days was almost a center of social life, has felt the effects of the change. The craftsman and the storekeeper occupied a prominent place in the community, and with their disappearance the population has not only decreased in numbers but has lost in quality and stability also.

The increase of tenancy throughout the country. — The increase of tenancy is having a depressing influence on the character of the country population. This increase does not, perhaps, affect the numbers living in the country, but it does affect in a material way their stability and their character. The character and prestige of the average tenant is anything but satisfactory. He seldom has interest, except of the lowest kind, in church, schools, or politics, in any public movement for the general welfare, in good roads, or in improved agriculture. With a shifting tenant class it is impossible to interest the farmer in the various institutions and organizations which are essential to rural economic development. If, as maintained by some, the rural life problem may be solved by a system of rural credit, the increase of tenancy is a decided hindrance, as a shifting tenancy cannot supply the security demanded by credit associations.

Of course, in a country as large as the United States, the amount and effect of tenancy will vary considerably. In Alabama and South Carolina more than three farms out of every five, and in Mississippi and Georgia nearly two farms out of every three, are worked under tenancy,[1] while Connecticut, Arizona, Montana, Wyoming, Massachusetts, Utah, New Hampshire, New Mexico, and Maine all have less than ten per cent of their farms occupied by tenants.[2]

The economic salvation of a country largely depends upon a number of small farmers who own the land they cultivate and cultivate the land they own. The economic stability of France has been saved many times by its small landowners. A half-dozen prosperous countries of the world illustrate the far-reaching results of small landholdings, owned and tilled by their occupants. The total number of Danish rural properties is 250,083. About 70,000 of these are holdings of less than one and a third acres each. The average size of all the farms is 35 acres.[3] Eighty-nine per cent of the farmers own their farms, and only eleven per cent are tenants and day laborers. Their cities know little of tenement houses and slum problems. The Dane does not crowd into congested cities because it is made easy for him to purchase a farm. If he has one tenth of the purchase price, he can borrow the remainder from a state bank. The *per capita* wealth of the country is the greatest in Europe, and the distribution of its wealth is almost ideal.

Lack of adequate facilities for transportation. — Lack of good roads has also played its part in the depletion of the rural population. The difference between good and bad roads is often equivalent to the difference between profit and loss. Good roads have a social and refining influence upon the community; but even looking at the question from the financial side alone, they are found to pay good dividends each year.

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[1] *Education in the South.* United States Bureau of Education. Bulletin 30. 1913.

[2] University of Virginia. Rural Life Conference. August, 1912.

[3] Royal Commission on Industrial Training. *Report,* vol. 1, part 3. Ottawa, Canada.

It is estimated that in the United States more than $100,000,000 is spent annually on the roads; and if to this be added the loss caused by bad roads, it will reach a sum treble that amount. It actually costs the farmer more to haul a bushel of wheat from his farm to the railroad than it costs to ship it from New York to Liverpool.[1] When it is considered that the prosperity of the farmer depends not on the amount of produce he can raise, but on that which he can market successfully, the effect of good roads on a farming community will be readily seen.

The average haul from farm to shipping point in the United States is about 9.4 miles. The average cost of hauling on the country roads is about 23 cents a ton a mile. The corresponding cost in France and England is about 10 cents, and in many cases it is as low as 7 cents. If the rate on this continent could be cut in half, it is not difficult to see that an immense saving would be effected. If all the vehicles used could, by improved roads, be made to last one year longer, the additional sum saved would run into millions of dollars.

Improved roads increase the value of property. A recent investigation in the State of Ohio shows that there are sixteen counties in which less than ten per cent of the roads are improved, while there are forty-five agricultural counties in which more than ten per cent are improved. The average price of the farm lands in the sixteen counties is $48.50 per acre, while the average price of land in the forty-five counties is $65.79 per acre, showing an increase of $17.29, or thirty-five per cent. Considering that there are 873 millions of acres of farm lands in the United States, the possibilities from road improvement are rather startling. If an increase of only $5 per acre were brought about, the enhancement of farm lands alone would be $4,365,000,000.

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[1] University of Virginia. Rural Life Conference, 1912. *Report*, p. 385.

All the evidence available tends to prove that the country-wide improvement of roads would result in better farming, greater profits, a richer social life, and improved schools.

CHAPTER III

THE RURAL ELEMENTARY SCHOOL

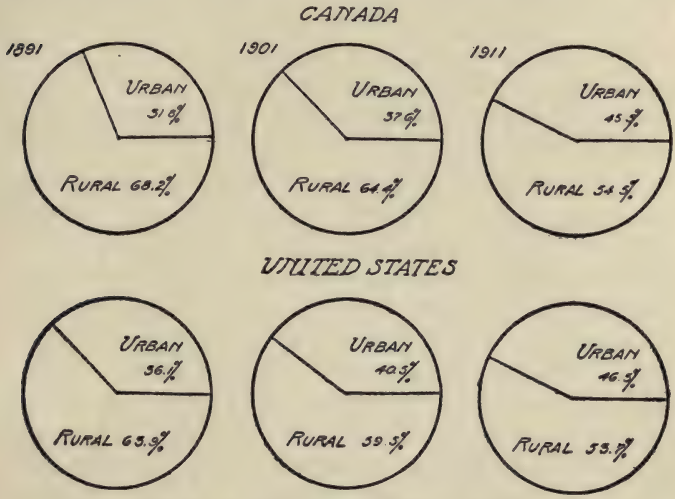
A LITTLE more than half a century ago the first agricultural college was established in America. There is now a well-equipped college in every state of the Union and in every province of the Dominion. Since their foundation, the colleges have devoted their attention to the improvement of agriculture through educational effort. They have accomplished much. Collegiate education in agriculture, and, in some sections, secondary agricultural education also, is fairly well established. The problem of rural education needs now to be approached from the other end, that is, through the elementary rural school.

It may be contended that the rural schools are not now doing successfully the work for which they were established, and that to impose another subject of study would make them still less efficient; but agricultural education, in the lower grades at any rate, does not mean the introduction of another subject.

It is now generally admitted that efficient rural schools are necessary to the welfare not only of the rural districts but also of the entire nation. A hurried survey, therefore, of the present condition of these schools will not be out of place. We have been so blinded by the growth of educational expenditure in the cities that to a very large extent we have lost sight of the condition and purpose of the rural schools.

From the standpoint of numbers of pupils alone, the rural schools deserve more attention than they have yet received. The following illustration shows the relative proportions of the urban and the rural population in the

United States and in Canada, according to the censuses of the last three decades. It will thus readily be seen that the rural population is still in the majority, even when the rapid increase in the urban population is taken into account. We are forced to conclude that the rural child suffers from lack of educational opportunities, when we compare the size of the schools, the character of the buildings, the quality of the teaching staff, and the management of the schools in urban and in rural districts.



COMPARISON OF RURAL AND URBAN POPULATION

THE PROBLEM OF ENROLLMENT

In the United States.[1] — In order that the extent and the gravity of this question may be understood, let us take a general survey of the conditions. The following figures are the latest obtainable, and are in most cases for the year 1910. Although these figures may have changed somewhat since that date, the general situation remains the same. In thirty-two states the total number of one-teacher, which generally means one-room, schools is 147,227. This is approximately 80 per cent of the total number of 183,824 public schools in those states. These thirty-two states are well distributed among the states in the Union, so that the ratio of one-teacher schools to total schools will probably hold true for the entire country. If so, there is a total of approximately 212,380 one-teacher schools in the United States.

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[1] *The Status of Rural Education in the United States.* Bureau of Education. Bulletin 8. 1913.

Statistics showing the total enrollment are available for twenty-one states. These give an enrollment of 3,621,278 pupils in 114,753 one-teacher schools, or an average of 31.5 to each school. At the same rate, the enrollment in the 147,227 one-teacher schools reported in the thirty-two states would be 4,637,650, and in the 212,380 one-teacher schools of the entire country, 6,689,970 pupils. This is 37.6 per cent of the enrollment in all public schools, and 60.2 per cent of the enrollment in all rural schools. The average number of pupils in each school may be determined from the reports of twenty-one states, but only in a few of these can it be determined when the average is fifteen or less. In fifteen of these states, 27.6 per cent of the one-teacher schools have an enrollment of fifteen or fewer; and it must be remembered in this connection that enrollment does not mean attendance.

Attendance in individual states.[1] — Every county in every state seems to have a number of small and poorly attended schools. In 1911, Kansas had 1629 schools with an attendance of ten or less; New Hampshire had 117 schools with an attendance of 6 pupils or fewer, and 383 schools with 12 or fewer. Maine, with a total of 2398 one-room schools, had 206 with an average attendance of less than 8. Minnesota had 385, Michigan 1500, and Nebraska 1200 schools with an attendance of 10 and less. In Kansas, which perhaps may be taken as typical of the other states, the figures when considered in detail are rather startling. Of the 8603 district schools, there are 78 with an enrollment of 5 or less, 474 with an enrollment of between 5 and 10, 1049 between 10 and 15, and 1316 between 15 and 20, a total of 2917 schools with an enrollment of 20 or less — more than one third of the total number of districts. In the matter of average daily attendance, there are 5326 schools with a daily average of 20 or less, or 62 per cent of the whole. In addition to this, there are 170 districts not maintaining schools, presumably because they find it cheaper to send their children to other districts.

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[1] First District Normal School, Kirksville, Missouri. Bulletin. 1911.

In 1912, in the State of North Dakota 126 schools had an average of 4 pupils or less, 160 had only 5, 211 had 6, 284 had 7, 303 had 8, 210 had 9, and 367 had 10, making 40 per cent of the schools with an average of 10 pupils or less.[1]

According to Dr. Monahan, of the United States Bureau of Education, the rural schools enroll more than half of all the pupils in the country, and of these 60 per cent, or 6,689,000, are to be found in the single-room schools.

The situation in Canada: Manitoba. — A special report of the Department of Education shows that in 1910 there were 2 schools with an average attendance for the year of less than 2, 7 with an average attendance of less than 3, 12 with an average of less than 4, 20 with less than 5, 36 with less than 6, 52 with less than 7, 211 with less than 10, and 260 with less than 12.[2]

Ontario.[3] — In the Province of Ontario, the richest and most thickly populated province in the Dominion, in 1913 there were 5086 one-teacher schools. Of this number there were 3150 with an average attendance of 20 or less, partly made up as follows: 3 with an average attendance of 1, 12 with 2, 28 with 3, 52 with 4, 81 with 5, 105 with 6, 98 with 7, 134 with 8, 179 with 9, and 203 with 10, thus giving 895 rural schools with an average attendance of 10 or less.

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[1] University of North Dakota. Bulletin 3. October, 1912.

[2] Macdougall, John. *Rural Life in Canada.*

[3] *Public and Separate Schools and Teachers in Ontario.* Department of Education. Toronto.

Enough has been said to show that the very small school is common throughout the whole of the North American continent.

THE CHARACTER, TENURE, AND REMUNERATION OF TEACHERS

The sex of teachers. — The vast majority of the teachers employed in rural schools are girls. Just as the rural population is declining in numbers, so is the proportion of male teachers declining. In a single generation this proportion has diminished 50 per cent. In the North Atlantic states, 86 per cent of all the teachers are women, while in the Western states over 80 per cent are now women, compared with 55 per cent in 1870. The statistics are incomplete, but it is apparent that the proportion of women teachers in the United States and Canada is far in excess of that anywhere else in the world. In Germany, 15 per cent of the teachers are women, in Switzerland 36 per cent, in France 47 per cent, in Italy 64 per cent. In the same year the proportion in the United States was 76.4 per cent.[1]

The preparation of teachers. — The fact is that teaching in the rural schools cannot be regarded as a profession. The salaries are so low that they are not attractive to those who have definitely prepared themselves for the profession of teaching. As a result, most of the teachers found in these schools are beginners or those who have not been sufficiently successful to be called to positions offering higher salary. Most of the men who are teaching in the country are doing so with the object of earning money to go to college or to enter some other occupation, while the girls are there until they are offered a position in a city school or receive an offer of marriage.

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[1] Foght, Harold Waldskin. *The American Rural School.*

"The total number of graduates in the normal schools, 18,728, was large enough to supply less than twenty-five per cent of the demand for new teachers in the elementary schools of the country. If all these graduates had begun teaching in the fall after their graduation, there would have been 60,000 vacancies, or more, to be filled by young teachers who had not had the educational and professional training given by graduation from a normal school. This lack of preparation of teachers is one of the greatest evils of our school system. In no other country that pretends to provide an opportunity for universal education is the condition in this respect so bad as in the United States. This condition must be removed or the schools will continue to be much less efficient than they should be." [1]

When it is seen that the towns and cities have the first call on these normal-trained teachers, it will be readily seen that few of them are likely to take positions in country schools. The State Superintendent of Public Instruction for Illinois reports that in that State, 16,000, or more than half, of the teachers have had no education beyond a common-school course. They have no normal-school qualifications and no high-school training. Beyond a little greater maturity, they have no advantage over the children they teach. In another state that ranks high in the educational world, out of 8000 rural school teachers in 1910, 4400 were found to have had no education beyond the eighth grade. This condition exists in varying degrees in every state in the Union.

If this condition existed for one year only, the effect would be bad enough; but the system perpetuates it. Teachers in the rural schools change so frequently that they do not become efficient, and they never stay long enough in one place either to become acquainted with the conditions of the community or to develop an interest in the school. Seventy-five per cent of the rural school children face a new teacher every fall. The farmers do not realize that the teacher in her second year is worth twenty-five to fifty per cent more to them and their schools than she was in her first year. The only place where the untrained teacher — with no training beyond that of the eighth grade — may begin is in the country school. As soon as she has gained some experience she finds a better position, and the country school is left to repeat the process every year.

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[1] Commissioner of Education. *Report,* 1912. United States Bureau of Education.

During the last ten years great attention has been given to this question of teacher training, and one of the chief arguments used has been the needs of the rural school. There is now a fairly successful system of normal schools in operation, but their establishment has not resulted in any appreciable increase in the number of normal-trained teachers in the rural schools.

The mere fact that normal schools are established does not improve the rural schools. It is of no use training teachers for rural schools unless the rural schools are prepared for the teachers so trained; and in this direction little progress has been made. The lamentable fact is that there is no demand for the well-trained teacher in the country. Such a demand must be created before much improvement can take place. The average farmer looks upon the teacher as an official forced upon him by the Government, and, generally speaking, attaches no importance to the office.

The remuneration of teachers. — Among the many circumstances which influence the teacher in the choice of a school is the question of salary, although probably this does not play so large a part as is generally supposed. If conditions in the rural districts were made more attractive educationally and socially, more teachers would choose the country for the sake of the life they could enjoy and the service they could render.

No comprehensive study of salaries has been made since the report of the National Education Association in 1905; but Professor Foght, in a more recent study, shows that the average salary paid to rural school teachers is $296.93 per annum. A still more recent study made by Coffman shows that the average salary paid to men in rural schools was $390; in town schools, $613; and in city schools, $919. The average salary for women in the rural schools was $366; in town schools, $492; and in city schools, $591.

In the Province of Ontario the average salary for male teachers in the urban schools is $1153, while in the rural schools it is $536.

"So long as we pay the chauffeur, the janitor, the saleswoman and office girl, the mill hand and the miner, the policeman and the hotel clerk more salary than we pay the teacher, it will be necessary for us to continue asking, What must we do to be saved? So long as we continue to pay the barber and the hair dresser more to shape up the outside of our heads, than we do the teacher to mould the inside, so long will the outside work be better done than the inside."[1]

THE PROBLEM OF MATERIAL EQUIPMENT

Another defect that hampers the progress of the rural school is the lack of material equipment, including buildings and grounds. The evolution of the schoolhouse, from the "dug-out," sod, adobe, or log building, to the palatial city school of to-day, is an interesting study; but the country school, generally speaking, has not evolved. It is in a state of arrested development or suspended animation. In discussing this question we must remember that the United States is a country of great extent and differing conditions, and that its schools, especially its rural schools, differ materially in quality and usefulness. For this reason it is dangerous to generalize. It may be said on the authority of the United States Bureau of Education, however, that only in very few cases are the buildings equal to the average homes of the section. A recent survey of the conditions in northern Missouri shows that in thirty miles of travel along country roads, not one unpainted barn or farmhouse was observed, but every schoolhouse was out of repair. It is not at all uncommon to find a pigsty or a cowshed better built and equipped for its purpose than is the rural schoolhouse.

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[1] National Education Association. *Proceedings*, 1912, p. 480.

The Board of Home Missions of the Presbyterian Church in America has made detailed surveys in selected counties in each of seven states. Their report of the school buildings in the State of Illinois reads as follows: "They are for the most part old and out of date — one room, low ceilings, dingy and dark. Large grounds surround these buildings, but they are for the most part bleak and bare of any attractiveness or beauty. Where most of the population are tenant farmers the buildings are poorly kept, and there is often strong opposition from the landlords to any improvement. The surroundings and inadequacy of the rural schools have much to do with driving the young people to the towns and cities." The reports on the surveys in the other states differ very little from the statement in the above quotation.

The Southern Educational Board recently conducted a survey of conditions in twenty-eight counties in eight Southern states. These counties contain 1579 schools for white children, 1107 of which have one teacher and 289 two teachers; 938 were reported to be old buildings, 683 were unpainted, 122 were unceiled, 485 were not weather-tight, 455 had home-made desks, 27 had no desks and were equipped with benches only.[1]

Apart from the condition of the building itself, the schoolhouse is generally deficient in many other essential requirements. Very few are properly lighted, either as to quantity or distribution of light. Only about five per cent of the

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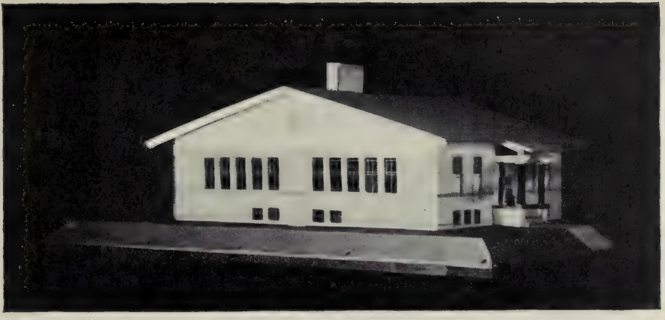
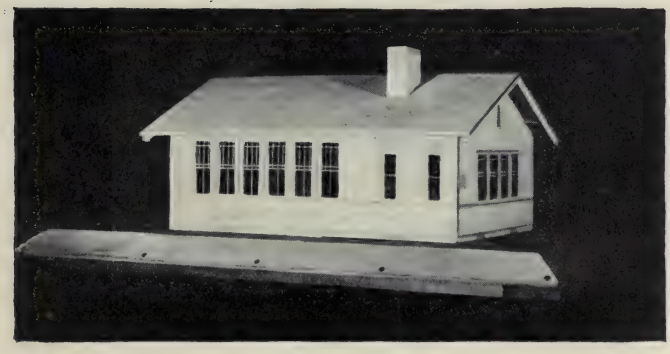
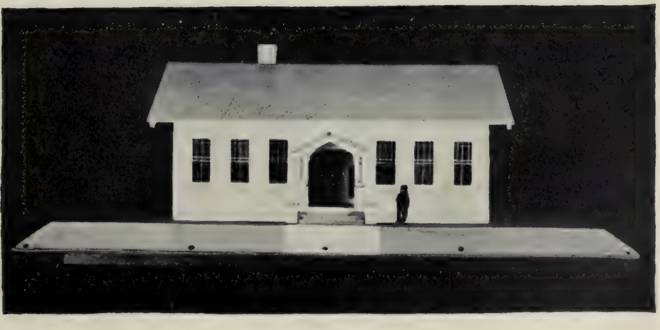
[1] *The Status of Rural Education in the United States.* Bureau of Education. Bulletin 6. 1913.



Front and side view



Rear view



Front view

CARDBOARD MODELS OF APPROVED RURAL SCHOOL-BUILDINGS

schools visited by representatives of the Board of Home Missions were found to be properly ventilated, and even a smaller proportion were properly heated. In the Missouri survey mentioned above, the water-supply for seventy-five per cent of the schools was unfiltered cistern water obtained from the roofs of the buildings. Several schools were found with no water-supply whatever. Proper sanitary conveniences are lacking in the schoolhouses in all parts of rural United States. One superintendent reports that ten per cent of his schools have no outhouses of any description. "The toilet facilities of the rural schools are, generally speaking, not only a disgrace, but a menace to public health and decent morals." [1]

Fortunately the indications now point to marked improvement in all that pertains to the material equipment of the rural school. Many districts are erecting new buildings. Several states have enacted laws which require that the plans for all new schools shall be approved by the State Board of Education. This can be done, however, only in those states in which the control of educational affairs is vested in a state or county board. Where this control is in the hands of a single district board of trustees, the only hope for better conditions lies in the education of public opinion.

The United States Bureau of Education has recently instituted an exhibit that should do much to show the rural population the chief points of a good schoolhouse. The bureau has had constructed, in accordance with the strictest scientific principles, several models of satisfactory and approved schoolhouses. These are made of cardboard and show all details of construction and equipment. They are shipped flat to any board of trustees desiring to erect a new school. Dr. Dresslar, of the Bureau, asserts that any carpenter, with one of these models to work from, will be able to build a schoolhouse that will meet every requirement.

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[1] *Rural Schoolhouses and Grounds.* United States Bureau of Education. Bulletin 12. 1914.

THE LENGTH OF SESSION IN RURAL DISTRICTS

The average yearly term of school for the whole country is 157 days, varying from little more than 100 days in several states to a maximum of 193 days in Rhode Island. The rural average is still shorter, being less than 100 days in several states and 140 days for the whole country. These figures represent the number of days the school is open, and not the number of days the children attend. The average number of days in which children of school age attended school was, in 1911, only 81.1 for the whole country. This varied from 42.5 days in South Carolina to 120.4 days in the District of Columbia. At this rate, the average number of days for each child in the thirteen years of school life varies from 552.5 days in South Carolina, to 1565.2 days in the District of Columbia. These figures reveal the conditions in the country at large, and it is safe to assume that if the corresponding figures could be secured relating to rural districts only they would be even more alarming.

Only two states, Connecticut and Rhode Island, have school terms in rural districts extending to nine months. Eleven others have terms between eight and nine months. Florida and Arkansas keep their rural schools open for five months, while North Carolina, South Carolina, and New Mexico provide their children with barely four and a half months of school each year.[1] These figures, however, do not tell the whole story. This short term is, in some cases, broken into two or three fragments for various farming operations. There are counties with a six-weeks session before Christmas, two months or so of school in midwinter, and six weeks in summer. This broken school term is common throughout the State of Georgia. There is no valid reason why the length of term in the rural schools should not be equal to that in the cities.

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[1] Commissioner of Education. *Report*, 1912. United States Bureau of Education.

THE PROBLEM OF SUPERVISION

The lack of adequate supervision. — Supervision is an absolute necessity if the rural schools are to be made efficient. The supervision which exists to-day, except in Massachusetts, Oregon, New York State, and a few favorably situated townships in other states, is more of a name than a fact. According to the Rural School Supervisor of the State of Alabama, it would take ten years to reach all the schools of the state even if twenty-five schools were visited each week. In Wisconsin, each county superintendent supervises the work of 136 teachers and 4250 children, and covers an area of 700 square miles. In Illinois, the average number of teachers to each superintendent is 113, with a territory of 550 square miles to be covered.

In the 18 larger cities of the United States in 1910, there was one supervisor for each 19 teachers devoting half or more than half of his time to actual supervision. By an enactment of 1912, the New York State Legislature divided the 57 counties of the state into 207 supervisory districts. The supervisor must be a fully qualified man, and in addition "shall pass an examination prescribed by the Commissioner of Education in the supervision of the course of study in agriculture, and teaching the same." [1] In one state where close supervision was put into operation five years ago, it has been found that the percentage of attendance in all the schools supervised increased in three years from an average of 69 per cent to 86 per cent, a gain of almost 25 per cent in that short period.[2]

On the occasion of his visit to a school, the superintendent cannot usually concern himself exclusively with the teacher and her methods. Owing to the inefficiency of the average school trustee and to other causes, he has to deal with a number of matters arising from the prejudice, ignorance, and apathy of the people. The clerical work and the outside duties of the superintendent are frequently so great that he can spend only three or four months of the year in actually visiting and supervising the work of the schools. From this has to be subtracted the time taken to reach the schools. In one county in Illinois, the county superintendent is compelled to drive 762 miles, in addition to railway and trolley travel, in visiting his schools.

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[1] *The Status of Rural Education in the United States.* Bureau of Education. Bulletin 8. 1913.

[2] National Education Association. *Proceedings,* 1913.

Inadequate qualifications for appointment of superintendents. — No qualifications are required for appointment as superintendent, except in a very few states. Only twenty-three states require qualifications, and even in these the requirements are low, being generally a first-grade certificate. Before supervision can be made efficient there must be developed a profession of superintendency, and to secure this there must be established training courses, fixity of tenure, and adequate salaries. The superintendent's position is now unstable, owing to selection according to political affiliations. The field of selection is not only narrowed by the fact that the superintendent must be a member of the dominant political faction for the time being, but usually he must also be a resident of the county. We do not apply this principle to the choice of a lawyer or a doctor, and it is difficult to see why the superintendent should not be chosen entirely upon his qualifications, quite apart from where his house is situated or the political party to which he belongs, qualities which "have no more to do with a man's ability to be an educational leader than the church he belongs to, the age of his wife, the name of his baby, or the size of the shoes he wears."

Industrial supervisors in rural schools. — A plan that is meeting with much success in making supervision more efficient is the appointment of county "Rural School Industrial Supervisors." These are industrial teachers working under the direction of the county superintendent. They visit the rural schools for the purpose of introducing industrial subjects, such as sewing, cooking, gardening, manual training, and the like; and they also assist in establishing cooking clubs, canning clubs, corn and tomato clubs, and school improvement associations. During the year 1912, special industrial supervisors for negro schools were employed in one hundred and seventeen counties in the Southern states. Virginia has seven white supervisors working in six counties, and similar officers for white schools have been provided in Georgia and Louisiana.[1] In 1913, there were thirty-six state officers devoting their entire time to the supervision of rural schools.

THE ADMINISTRATION AND ORGANIZATION OF RURAL SCHOOLS

Probably the greatest defect of all, and the one that is, in the main, responsible for most of the others, is the way the schools are administered. The district, or single district, is the unit in twenty-one states and in parts of four others. The township is the unit in ten states and in parts of three others. The county is the unit in eleven states and in part of one other.

The district system presents the most objectionable features. In the pioneer days the choice of the one-room district school was perfectly natural. The size of the school depended on the number of people within traveling distance. The teacher "boarded round." This system originated in Massachusetts in 1789, and, according to Horace Mann, it was the most unfortunate law ever enacted on the subject of common schools. At the time it was adopted conditions were primitive, and the schools were poor and few; but to-day it stands in the way of progress. The state superintendent for Kansas says, "No system, as a whole, could be devised that is more extravagant, more wasteful, or less efficient in securing direct results from the system in vogue in this country with relation to the management of our schools. We have an army of over 500,000 teachers, managed by another army of 2,500,000 officers — a condition of affairs that ensures extravagance, represents a vast amount of wasted energy, and renders certain a disastrous lack of unity and co-ordination."[1]

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[1] Commissioner of Education. *Report*, 1912. United States Bureau of Education.

Under this system, each county has from twenty-five to two hundred and fifty entirely distinct school systems, each under the control of three trustees, many of whom have no idea of the requirements of a good school. Through a county superintendent these separate systems are very loosely connected with the state system of education administered by a state superintendent. In the State of Illinois, about 40,000 trustees are required to manage 2000 teachers and to control an expenditure of $3,000,000, which is about one trustee for every $75 of expenditure for school purposes. If the same plan were followed in Chicago, there would now be required about 275 different boards of trustees.[2] Not only does this large number of three-men school boards render any satisfactory coördination impossible, but it does not even result in the efficient management of the one school of which they have the direction.

The township-unit system is a great advance over the district system, but even this, except in the more thickly populated regions, is too small a unit. Probably one of its greatest advantages is that it lends itself much more readily than does the district system to the consolidation of schools.

The county-unit system. — It would seem that, other things being equal, the county ought to make an ideal unit for school purposes. In most other public affairs, as roads, bridges, administration of the law, assessment, and taxation, the county is already the prevailing unit. The advantages of such a system are the abolition of local district taxes for education, the equalization of the tax rate throughout the entire county, equal educational opportunities for both city and country, rural teachers properly paid, the same qualifications exacted of teachers for country as for town, and the schools in session the same length of term.

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[1] First District Normal School, Kirksville, Missouri. Bulletin, 1911, p. 61.

[2] Cubberley, E. P. *The Improvement of Rural Schools.*

In spite of all the admitted defects and disadvantages, the rural school has performed a useful service that could have been rendered by no other agency. The country school generally represents but a single class of people. The rural schools are already in existence, they are small and can confine themselves to essentials, they are close to the actual conditions of life of the children who attend them, and they can, if they so desire, utilize this environment in their educational program.

It is never a pleasant task to point out defects, and it is justifiable only when done in order to indicate a course of action that is calculated to remedy the deficiencies. The next chapter will outline some remedies which, if applied, will make the schools more efficient in all respects and particularly in the direction of affording an education that shall have direct reference to the predominant industry of the district, which in most cases is agriculture.

CHAPTER IV

THE IMPROVEMENT OF THE RURAL SCHOOL

In outlining plans for the improvement of the rural school, it has become the general practice to sum up all the defects and then to proclaim "consolidation" as the great panacea. Many ardent educationists seem to have the idea that all attempts to improve the one-room school will delay the general adoption of consolidation. If relief is to be brought to rural schools in this generation, we must, while encouraging consolidation, do those other things which can be done without consolidation.

There are approximately 6,000,000 country boys and girls in the United States, and under favorable circumstances it is estimated that two thirds of them may eventually receive their education in consolidated schools. This will leave 2,000,000 children who will, as heretofore, receive their education in districts where physical conditions make consolidation impracticable. It is, therefore, apparent that both forms of schools will always occupy an important place in the educational system of the United States. Some of the measures that may be taken to improve the rural schools will now be considered.

THE SCHOOL SURVEY

The first need is a clear understanding of local conditions. Politicians, newspapers, and magazines have drawn attention to some of the problems in a more or less sensational manner, but scientific investigation is necessary to discover facts. These can be found only by the personal investigator who can stay long enough in one district to become thoroughly conversant with the actual conditions. The collection of information is not an end in itself, it is only a means toward an end. When the information has been gathered it should lead to definite action.

Surveys of the character required have been made by the "Georgia Club" for the study of rural sociology, at the State Normal School at Athens. This organization grew out of a small group of interested people who met in an informal way to discuss conditions in the State of Georgia. In 1912 the trustees of the normal school established a chair of rural economics. The leader of the club was the president of the school. Finding that the work required much time and attention, he resigned the presidency to give his undivided attention to this new work. Since 1910, fifty-one county surveys have been completed, showing in detail the gains and losses during the past decade in population, agriculture, industry, roads, sanitation, schools, and churches. The reports of these surveys have been given wide circulation through the newspapers. They contain information much of which has never before reached the press, and in many cases have brought about concerted action for betterment.

ENERGIZING THE COMMUNITY

The community itself is the vital factor in the upbuilding of the school system. By financial assistance and wise laws the State may do much to assist development, but in the last analysis the ideal school can be realized only through the efforts of the local authorities. It is difficult for any movement to travel very far in advance of public opinion. A committee of the National Education Association, reporting on rural schools, says: "It is the belief of the committee that the chief cause for all the evils above enumerated is the low educational ideals of the people in rural communities. This cause exists because of the lack of a proper conception of what true education means, of what is possible in the field of industrial education for country children, and of its value to them. Lacking this conception, they fail to appreciate the necessity of keeping their children in school for a proper length of time and for making the proper expenditure for the purpose of securing the essentials in teaching, for adequate equipment and supervision. This lack on the part of the rural population is largely due to the character of their education and to their environment. While other causes than the one stated may seem to have operated to develop conditions interfering with the efficiency of the rural school, it is believed that all such causes may be reduced, in final analysis, to the one stated. If this is the correct view, it follows that the problem of improving the rural schools resolves itself into the problem of elevating the ideals of the people in the rural communities."[1] To bring about this desirable result there should be inaugurated a nation-wide campaign.

Such a campaign should extend over a long period, as educational institutions are not made over in a day. Every possible means should be taken to arouse the interest of the people. The men conducting the campaign should know the educational requirements and be sympathetic toward the difficulties of the situation. They should not scorn to adopt advertising methods, posters, pictures, moving pictures, and any other devices that can be employed to attract the people. Curiosity comes first, then interest, and if the interest be sufficiently aroused, action will follow. As far as the United States is concerned, no organization can carry on this work better than the United States Bureau of Education. The funds required will be large, but the returns that will accrue in greater educational and industrial efficiency will fully warrant the expenditure.

THE QUESTION OF FUNDS

The main problem of rural education is unquestionably one of funds. One object of such a campaign as that suggested should be to bring about a realization of the fact that the interests of the rural schools are of the utmost concern to the community, and that money spent in this direction is a profitable investment. "What the average farmer wants to know is, Will it pay? If education can show him that a study of high-bred corn will bring substantial returns, he is willing to spend more money on the country schools and to spend it in a better way. This putting an educational system on so low a basis is highly repugnant to the 'educator' who cherishes lofty ideals of 'culture,' 'educational processes,' 'periods of adolescence,' etc. But some of us who have to work in an atmosphere of real life have to meet conditions as we find them."[1]

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[1] National Education Association. *Industrial Education in Schools for Rural Communities.*

The rural school has never received adequate financial support. In the early days this was perhaps unavoidable, but the conditions which rendered the dweller in the country unable to pay a fair school tax are rapidly disappearing. The land has greatly improved in value, the country is becoming more settled, the farmer's burdens have become lighter, and his general prosperity has materially increased.

Property in the country is generally assessed at a much lower proportion of its value than in the city, and even on this rate of assessment a lower school tax is paid. Whether the first condition can be remedied or not is, perhaps, an open question, but for the second it seems impossible to find any economic justification. In Kansas, the local school tax paid by towns and cities in 1910 was eighty per cent more than that paid by country districts; in Missouri, the tax in towns and cities is over seventy per cent higher than in the country; in Minnesota, the city tax is three times that paid in the country; in Ohio, towns and cities pay more than ten per cent higher tax than rural districts; and in Nebraska and Iowa, the town and city rate is about double that of the country.[2]

[1] Kern, O. J. *Among Country Schools.*

[2] Betts, G. H. *New Ideas in Rural Schools.*

State aid for rural schools is the only satisfactory solution of the problem. Where financial aid is given, several precautions must be taken. Lump sums, given to districts without special conditions, are never satisfactory.

The ultimate success of the schools depends on local pride, local initiative, and local taxation. Only two states attempt to solve the problem by appropriating lump sums out of the state treasury, namely, Mississippi and Georgia. The rank of these two states in the column of illiteracy is forty-fifth and forty-sixth. During the last twenty years the common-school appropriation of Georgia has nearly quadrupled, but the place of the state in the illiteracy column has remained the same. The state should encourage each community to spend its own money by distributing state appropriations on a sliding scale according to the local tax levy. "It is manifestly unfair to ask the people of towns and cities to help pay for the support of rural schools, through the medium of the state treasury, except on condition that the patrons of the schools themselves do their fair share. Mr. 'A.,' living in a town where he pays twenty mills school tax, ought not to be asked to improve Mr. 'B's' rural schools, while Mr. 'B' is himself paying but ten mills school tax. The farmer is as able as any other class to pay a fair rate of tax for his schools, and should be willing to do so before asking for aid from other sources. Rural education must not be placed on the basis of a missionary enterprise. State aid should be used to compensate for the difference in the economic basis for taxation in different localities, and not for a difference in the rate of tax between localities that are equally able to pay the same rate."[1] Poverty cannot be pleaded. There is plenty of money available. This is shown by the large sums wasted and often worse than wasted on alcoholic beverages, tobacco, chewing gum, candy, and baseball.

[1] Betts, G. H. *New Ideas in Rural Schools.*

THE COUNTY AS THE ADMINISTRATIVE UNIT

The county should be taken as the unit of organization for school purposes. It should be given full control over all buildings, teachers, expenditures, and supervision, subject to the regulations of the state department of education. No power for working mischief should be left in the hands of trustees who have no proper conception of the need for education and a strong disinclination to spend money for any form of improvement. The legislation giving control to the county should be mandatory and not permissive. It is useless, in the majority of cases, to give a district the power to do something it has never done and does not want to do. The whole field of educational effort should be entirely divorced from political considerations.

THE NEED FOR MALE TEACHERS IN THE RURAL SCHOOLS

Reference has already been made to the rapid increase of women in the teaching profession, and in many states women are also being appointed as superintendents. The main reason for the employment of women in both capacities in country districts is that they are willing to take positions at the low salaries offered. In order to attract men to the profession and to retain them in it, better salaries and other inducements will have to be offered. It is argued that the schools are small and not able to pay salaries sufficient to enable a man to establish a home in the country. As a remedy for this, why should not the teacher in rural districts combine farming with his teaching. Land is cheap, and the time cannot come too soon when the State will have power to refuse official recognition to any rural school that does not provide a residence with a small farm attached for the rural schoolmaster. This would make possible the permanent employment of a married man. Denmark and France follow this practice, and both countries have largely solved the rural problem.

ADAPTING THE RURAL SCHOOL TO RURAL CONDITIONS

The idea that town and city schools should be taken as models for the country must be discarded. It is an old but very unwise tradition which urges that what is good for the city is good for the country. For the past twenty years the city schools have held the center of the stage and have come almost universally to be looked upon as the pattern upon which the country schools must be modeled. A country school is peculiar to itself, and under proper conditions the education it affords cannot be excelled by that given in the best city schools. Parents living in the country need have no misgivings as to educational advantages below the high school, if they will make the country school what it might be.

DEMONSTRATION, OR MODEL, SCHOOLS

Most country people require practical demonstration of new methods before they can be persuaded to adopt them. Just as object lessons are of great value in the schools and demonstration farms and plots have proved their worth in agricultural extension, so demonstration schools might prove of equal value in the improvement of rural schools. Any success that has attended the Macdonald movement in Canada is due to the adoption of this principle of practical demonstration.

The demonstration school is said to have originated with John Noland, Superintendent of Schools in Madison County, Kentucky. The intention is to make at least one school in each educational district what all should become. Imitation and emulation are expected to accomplish the rest. In the year 1910–11, the State Superintendent of Rural Schools in Kentucky selected ten schools in each of ten counties well distributed throughout the state. The county superintendent placed these schools under the immediate direction of the State Rural School Supervisor. In each of the selected schools a teacher was placed, who

A KENTUCKY LOG SCHOOLHOUSE; USED UNTIL 1910

There are about 5000 such buildings still in use for school purposes in the United States

agreed to manage the schools as directed by the state superintendent. Seven or eight other schools were grouped with each demonstration school. For each group an extra "substitute" teacher was engaged. This substitute took the place of each regular teacher in the group, in turn, so that the regular teachers, one at a time, could spend one or two weeks in the central school in studying the methods adopted by the model teacher. These schools are now more than two hundred in number and their immediate oversight has been placed in the hands of county supervisors. The same plan is being followed in other states than Kentucky.

Many promising experiments and successful efforts toward educational betterment make the serious mistake of hiding their light under a bushel. There should be a day set apart once a month on which the people living in the district should visit the schools and be shown what is being done, and wherein the schools are lacking. The patrons should be made ashamed of defects, proud of achievements, never complacent nor satisfied, but always anxious to accomplish more.

Model rural schools are being erected in connection with many normal schools and these may, to some extent, serve the purpose of demonstration schools. They are used for the purpose of training teachers for the rural schools. There is a danger, however, that these schools may go beyond the requirements and financial abilities of rural districts and, like the model farms, in some instances defeat the objects for which they were established. There is also danger from the fact that in some cases rural conditions have to be improvised.

THE NEED FOR BETTER BUILDINGS

The present type of building must be improved and provision made for a new type. Speaking generally, it is probably true that no more unsightly and unsanitary buildings are to be found anywhere than a large majority of the rural schoolhouses. If these schools existed in a town or city, they would be condemned by the health officers.

A Rural School Letter issued by the United States Bureau of Education on February 19, 1914, gives an account of the renovation of a country school. It took just one working day of eight hours to transform a Tennessee rural school building that was in very bad condition into a building of which any community might be proud. What was accomplished in this instance by community coöperation can be carried out effectively by any county superintendent, teacher, or school improvement association. This demonstration in public-school improvement was organized by Professor Haworth, of the East State Tennessee Normal School. He first secured the coöperation of the County Board of Education of McMinn County, in which the demonstration was carried out. He also secured the help of the teachers of the county and of the patrons of the Neil School, the plan being to show what any neighborhood can do in one day by united action in the improvement of school buildings and grounds.

A band of teachers, school patrons, and normal students marched out to the Neil School early in the morning to begin operations. The workers were armed with shovels, hoes, axes, carpenter's tools, paint, whitewash, and soap. They nailed on new boards where they were needed, painted the building, built a chimney, cleaned up the rubbish, scrubbed the floor, renovated the entire interior, constructed a bookcase for the teacher, tinted the walls a pearl gray color, and hung pictures. The old desks were removed and new desks, supplied by the district, were placed in position. The expense amounted to $33. It included twelve gallons of paint, five gallons of linseed oil, four paint brushes, half a bushel of whitewash, two dollars' worth of weather-boarding and lathing, two pounds of nails, four window shades, material for sash curtains, four pictures, a number of books to start a library, and one American flag.

Of course, it may be said with perfect truth that efforts of this kind should not be required, but they may nevertheless be necessary in order to show what can be done and to bring about improvement within a reasonable time. If generally applied, such plans would within a month work a revolution in the appearance of the country schools. Many of them might undergo relapse, but if only fifty per cent of the schools were kept in the condition in which they were left by the band of workers, the effort would be worth while. When education is looked upon in its proper light, it will be recognized that work around the school buildings and grounds can be made a factor in the education of the pupils.

THE ONE-ROOM SCHOOL

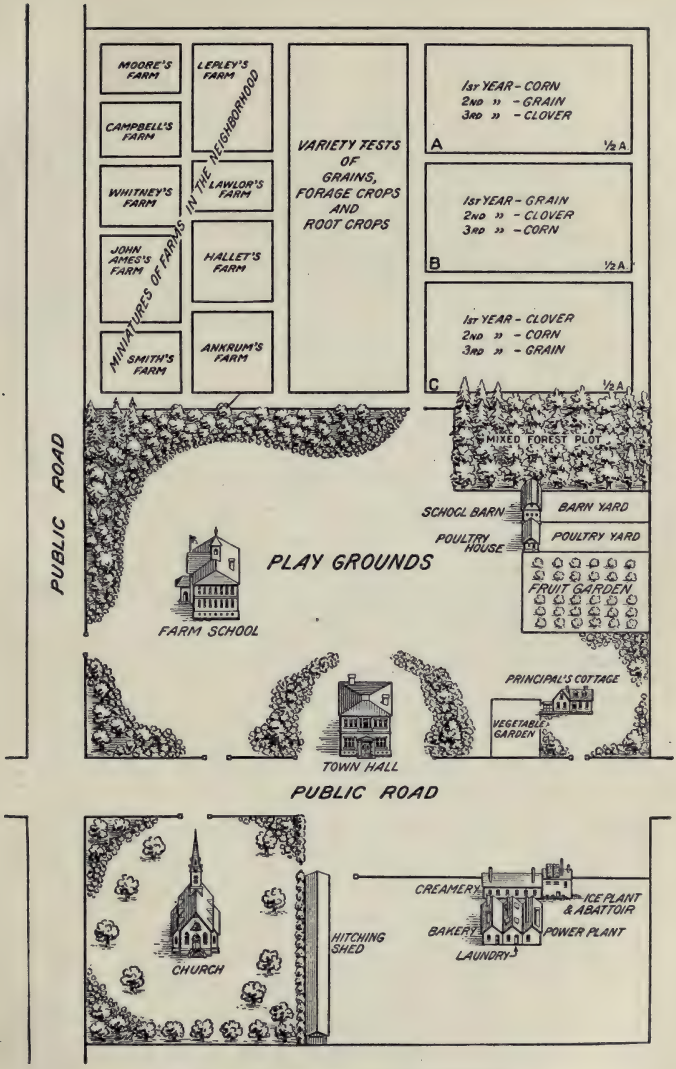
It is generally assumed that the one-teacher school must of necessity be a one-room school. A new kind of building is required. Many country districts have a poor school and a poor church. One type of building exists in practically all the rural districts of the United States, and this is the type that was adopted when public education first came into existence. The school erected on the grounds of the Normal School at Kirksville, Missouri, is an attempt to show that a rural school can, for an expenditure of $350 in addition to the usual cost of a good building, have all the conveniences that modern requirements in education demand. Provision is made for manual training, household science, and agriculture. The school is well lighted, heated, and ventilated, and could be built in any rural district in Missouri for about $1200. A similar school has been built at the New York State College of Agriculture at Cornell University. This is a one-teacher school, with a workshop separated from the classroom by folding doors so that one teacher can manage both rooms when necessary. The total cost was $1983.32, while the average cost of rural school buildings and sites in New York State when the school was built was $1833.63.

THE ARRANGEMENT OF COMMUNITY BUILDINGS

Why should not every district have its educational block or community center? Here could be grouped the school, surrounded with ample grounds and gardens, the residence for the schoolmaster and his family, the church, the public assembly and amusement hall, the park, the athletic grounds, the skating-rink, and the coöperative creamery, the cheese factory, the bakery, and the like. Such a center would be a rallying-point and would do much to revitalize the whole neighborhood. In planning such a center, foresight should be exercised and future requirements should receive due consideration. Not all the buildings need be erected at once, but the land could be secured; and if a definite plan were adopted and the building material decided upon, the block when completed would be an harmonious whole. There is, of course, a practical difficulty in carrying out such a scheme, owing to the fact that community institutions are now largely established and their locations are not readily changed; but in new settlements, and where new buildings are being erected, the plan proposed could be gradually put into effect.

THE NEED FOR COMPULSORY ATTENDANCE

A law requiring attendance at school until the age of at least fourteen years should be placed on the statute books of every state and province. Its enforcement should be entrusted to officers entirely free from local influences. A large number of children of school age are not even enrolled in the schools and the attendance of those that are enrolled is lamentably irregular. In addition to the loss of education by the children themselves, this leads to great economic waste, as the schools are kept open however low the attendance. The attendance laws and the laws regulating child labor should be as rigorously enforced in the country as they are in the towns and cities.


MOORE'S FARM
LEPLEY'S FARM
CAMPBELL'S FARM
WHITNEY'S FARM
LAWLOR'S FARM
JOHN AMES'S FARM
HALLET'S FARM
SMITH'S FARM
ANKRUM'S FARM
MINIATURES OF FARMS IN THE NEIGHBORHOOD
VARIETY TESTS OF GRAINS, FORAGE CROPS AND ROOT CROPS
1st YEAR - CORN
2nd " - GRAIN
3rd " - CLOVER
A
½ A.
1st YEAR - GRAIN
2nd " - CLOVER
3rd " - CORN
B
½ A.
1st YEAR - CLOVER
2nd " - CORN
3rd " - GRAIN
C
½ A.
MIXED FOREST PLOT
PUBLIC ROAD
SCHOOL BARN
BARN YARD
POULTRY HOUSE
POULTRY YARD
PLAY GROUNDS
FRUIT GARDEN
FARM SCHOOL
PRINCIPAL'S COTTAGE
VEGETABLE GARDEN
TOWN HALL
PUBLIC ROAD
CREAMERY
ICE PLANT & ABATTOIR
BAKERY
POWER PLANT
LAUNDRY
HITCHING SHED
CHURCH

A COUNTRY COMMUNITY-CENTER

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SOME NOTABLE EXAMPLES OF RURAL SCHOOL IMPROVEMENT

As a fitting conclusion to this chapter it will be pertinent to outline some school conditions that have been achieved in certain states, and finally to describe the conditions that exist in what is perhaps the most educationally advanced of the European countries, namely, Denmark.

Rural schools in Iowa. — The Association of Southern School Superintendents recently made a study of the schools of the Middle Northwest. During this study they visited the schools of Page County, Iowa, and the following particulars are gleaned from their report. It must be remembered that the visiting delegates were men of experience, men who knew what to look for, and who could not be deceived by those preparations which are generally made for the special benefit of visitors. The schools in Page County were under the supervision and direction of Miss Jessie Field, and they have won a national reputation among rural schools. In this county there are no cities or large towns; the population is rural, and the occupation almost entirely agriculture.

The purpose of the investigation was "to study the best that had been done in the correlation of the work of the one-teacher rural school with farm life and agricultural occupations." The buildings were plain and inexpensive. On the outside they were painted and on the inside papered and furnished with all necessary equipment. "The schoolhouses were not built in strict accordance with the well-established principles of school architecture as to light, heat, ventilation, dimensions, etc., but the charm about these schools was that they had been transformed into real homes. The school grounds were small, but attractive and well kept. Ten schools were visited. The teachers were all women, but women of maturity, training, and experience. Every one had received one or more years of normal instruction, and all but one had had several years of successful teaching experience. Several had been teaching in the same school for years. The salaries ranged from $45 to $65 per month, and the terms from seven to nine months. The schools were limited to a course of eight years' work and no high-school work was attempted. In the schools a farm-life atmosphere had been created; agriculture and the things relating to farm life permeated the life of the school. Attractive pictures of farm produce, farm animals, farm flowers, farm weeds and vegetables, country landscapes and barnyard scenes, hung on the walls, and interesting collections of produce and fruits were arranged in cabinets."

A special arithmetic, dealing almost exclusively with practical farm problems such as the children and their parents need to solve every day, had been prepared by the county superintendent, and was used in the schools. Selected bulletins from the different state and federal departments, relating to agricultural pursuits and farm problems, were displayed and kept within easy reach for reading and reference. In addition to the creation of this farm-life atmosphere, much of the instruction of the school was related to the everyday life and work of the farm.

These schools are rural schools, not city schools in the country, and the means adopted for the creation of such an atmosphere are so simple and practical as to be easy of application to the country at large, even by teachers without special agricultural training. None of the teachers in these schools had been specially trained to give agricultural instruction.

Scoring rural schools in Arkansas. — In many parts of the country, attempts are being made, with considerable success, to bring the rural schools to a high state of efficiency. One of the means adopted is the "score card." The following is an example of such a card, used in the schools of Arkansas. While not all persons may agree with the number of points assigned to each item, the plan is one to be highly commended: —

RURAL SCHOOL SCORE CARD

FOR RATING ARKANSAS SCHOOLS

(To be used by County Superintendent when visiting and inspecting rural schools of county.)

....................................County,

School District No..............................

Name of School..............................

Date of Visit..................................

Scored..........Points.

..............................Superintendent.

To County Superintendents and Teachers:

This Rural School Score Card has been prepared for use by county superintendents when visiting the rural schools of their counties. The aim is to fix a definite, workable standard of ideal conditions for these schools in all points which make for their greater efficiency. It will be remembered that more than 80 per cent of our boys and girls are being educated in our country schools and if by the use of these cards school conditions can be improved we shall feel that their use has been worth while.

By careful and judicious use of these Score Cards we feel confident that you will be able to encourage and stimulate well-directed efforts for better conditions in our rural schools to the end that these schools may be made fully efficient. We earnestly urge that you take these Score Cards and use them for the purpose in view in their preparation — the betterment of these schools in every way.

Very sincerely,
J. L. BOND,
Supervisor of Rural Schools.
GEO. B. COOK,
State Superintendent.

SCORING

I. Ground (16 *Points*)	*Points allowed*	*Points given*
1. Grounds of at least one acre and fenced	4	......
2. Grounds well drained and nicely kept	2	......
3. Two good outhouses, well kept and clean	2	......
4. Grounds clear of trash and rubbish	2	......
5. Shrubbery or trees set out	2	......
6. Water-supply from safe source	4	......

II. Buildings (22 *Points*)	*Points allowed*	*Points given*
1. Building painted and in good repair	4	......
2. Ceiled and painted or plastered	2	......
3. Floors well swept and walls clean	2	......
4. Windows clean with panes all in	2	......
5. Window space at least one fifth of floor space	2	......
6. Light from rear and sides with no glaring or cross lights	2	......
7. Ceiling of lighter color than walls	2	......
8. Windows with good shades	2	......
9. Doors with locks and keys	2	......
10. National Flag	2	......

III. Equipment (22 *Points*)	*Points allowed*	*Points given*
1. Seats well arranged and of proper sizes	4	......
2. Suitable chair and desk for teacher	2	......
3. Good blackboards	2	......
4. Jacketed stove, or ventilating stove with proper ducts	2	......
5. Appropriate wall pictures (at least two)	2	......
6. Suitable maps, charts, globes, etc	2	......
7. Children supplied with proper books	2	......
8. Library with suitable selection of books	2	......
9. Dictionary with stand or rack	2	......
10. Sanitary drinking faucets, fountain or individual drinking cups	2	......

IV. Teacher (28 *Points*)	*Points allowed*	*Points given*
1. With first grade certificates, high school, college or normal work	5	......
2. Second term or longer in present school	3	......
3. Using modern methods	2	......
4. Daily attendance 90 per cent of enrollment and enrollment 80 per cent of enumeration	4	......
5. Pupils obedient and at work	2	......
6. Program on board or wall and closely followed	2	......
7. Course of study being followed	2	......
8. Knows well the subjects	2	......
9. Lessons assigned with care	2	......
10. Register neat and well kept	2	......
11. Doing required reading in Teacher's Reading Circle	2	......

V. Community Activities (12 *Points*)	*Points allowed*	*Points given*
1. School gardening or special work in Agriculture being done	3	......
2. An active School Improvement Association	3	......
3. Boy's Corn Club work carried on	2	......
4. Girl's Canning Club work carried on	2	......
5. Literary Society or Debating Club	2	......

Schools scoring 90 to 100 points will be rated as Class A schools; those scoring 75 to 90 points as Class B schools; and those scoring 60 to 75 points as Class C schools.

Rural schools in Denmark.[1]—The measures that have been adopted to bring the rural schools of Denmark to their present state of efficiency are full of suggestion for other countries. All normal children must attend regularly throughout eight years. A fine is exacted for each day that is missed. As a result, Danish country districts show less than one twentieth of one per cent illiteracy. No child is obliged to go more than one and a half English miles to school, and there must not be more than thirty to thirty-five children in a room. The schools are well graded, and no high-school work is attempted.

All schoolhouses must be erected in accordance with rules laid down by the Minister of Education. Every rural community of reasonable wealth must provide a suitable covered gymnasium. Districts less wealthy must furnish a well-prepared and sanded space of at least 600 square metres in extent, for outdoor gymnastics and play. The sanitary requirements are very stringent: floors must be scrubbed daily; woodwork and furniture must be wiped with a wet rag daily; once a week rooms must be cleaned with soap and water. The length of the school year is a minimum of forty-one weeks, or two hundred and forty-six school days. School is carried on six days in the week. An old law prescribes that all children shall have at least twenty-one hours of instruction per week for forty-one weeks during the year. The older children may thus attend three whole days and two half days instead of the full time during the summer, while the same holds good for the younger children during the winter.

The teachers for these rural schools are required to have the same thorough preparation as the teachers in the graded schools in the towns and cities. Salaries are governed by law. The initial salary is from 900 kroner to 1400 kroner per annum. An annual increase is provided for twenty years, until 1000 kroner additional is reached, so that a teacher may eventually receive 2400 kroner. In addition, teachers are provided with free homes, ranging from three rooms, in the case of unmarried women teachers, to seven or eight rooms for married men. All teachers are entitled to a garden varying in size from a small lot to nearly an acre. This is plowed and planted to shrubbery and fruit at community expense. These gardens are used, not only to supplement the teacher's income, but often as experimental plots. These additions of house and garden amount to another 1000 kroner. Then the teacher may earn another 100 kroner by acting as chorister in the church. This means a possible total salary of 3500 kroner, almost three times as much as the average salary for rural teachers in the United States. Fair wages and a long tenure of office warrant the prospective teacher in giving adequate time and money to his preparation and training.

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[1] Danish Elementary Rural Schools. United States Bureau of Education. Bulletin 24. 1914.

The improvement of the rural school has been dealt with in some detail, as it is felt that such improvement is vital to effective work in agricultural education. But it will not be wise to wait until all these improvements are effected before placing the subject of agriculture on the program of the rural schools, as its introduction will pave the way for many of the needed improvements.

CHAPTER V

TEACHING AGRICULTURE IN THE RURAL SCHOOL

The teaching of agriculture should begin in the rural schools. In some cases, particularly in the one-room schools, ideal conditions can probably never be attained; but the urgency of the matter will not admit of delay. It is, of course, desirable and necessary to look for ideal conditions, for where there is no vision the nation perishes; but to secure satisfactory and reasonably early results, we must adapt our plans to existing conditions when we cannot modify conditions to suit our plans.

"One thing is certain: if agricultural education is to become efficient, the work of reformation must be carried on in the country schools."[1] In this connection it must be remembered that out of every five hundred boys and girls attending rural schools only one ever enters an agricultural college, or one fifth of one per cent; and further, about ninety per cent of the boys and girls in the common schools do not continue their studies beyond the fifth or sixth grade.[2] It follows, therefore, that whatever is to be done in the way of laying the foundations of agricultural knowledge for the great body of pupils must be accomplished before the pupils leave the elementary school.

It must be recognized that the rural school teacher has a great deal to do. The teacher in the country must conduct on the average twenty-three recitations a day, with an average period of fifteen minutes each. In the one-room school the number of recitations is approximately thirty, with an average time of eleven minutes each. Under these circumstances the very suggestion of a new study is naturally quite sufficient to arouse antagonism. For years the teachers have been urged to vitalize the course of study and to bring the schools into closer touch with the people, but the untrained teacher has been unable to do this and has almost come to the conclusion that those who give this counsel know no better than they how it is to be done, or they would supplement their general advice with a bill of particulars.

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[1] Scath, John. *Education for Industrial Purposes.* Department of Education. Toronto.

[2] Farmers' Institutes for Young People. United States Department of Agriculture. Circular 99.

THE DEMAND FOR INSTRUCTION IN AGRICULTURE

The demand for instruction in the elements of agriculture has been made, at different times, in practically every country in the world. In some states and provinces the subject has made considerable progress, but, generally speaking, this has been due to the enthusiasm of individual teachers working under exceptional conditions. That the success so far achieved has not been greater is owing to the fact that the subject was introduced as an additional branch of study into an overcrowded curriculum, without any consideration of options or equivalents.

Certain adjustments will have to be made, but the untrained teacher must have the assistance of experienced supervision before she is in a position to make these adjustments. We can, however, without any injustice ask the teacher in her intercourse with her pupils and their parents to present the attractive side of country life. In short, we may reasonably ask her to create a farm-life influence throughout her school. This influence, without any formal instruction in agriculture, would do much to change the thought direction of the pupil. Probably the influence the teacher exerts has a greater effect on the mind of the child than the actual information she imparts or the instruction she gives.

THE CORRELATION OF AGRICULTURE WITH OTHER SUBJECTS IN THE CURRICULUM

The teaching of agriculture does not demand the omission of any subject now on the program, but it does necessitate a revision of those subjects. A critical study should be made of each with the object of omitting matter which has no practical application, and also of changing the direction of what is left so that it may be related to life. The crowding of the curriculum is not due to the multiplicity of subjects, but to the attempt to teach in those subjects a number of things that are not essential.[1]

Bailey has said, in speaking of the curriculum, "Each of the common branches can be so reorganized as to revolutionize agriculture within ten years"; and it is along the lines of the reorganization of the common branches that agricultural education in the elementary school should mainly proceed. The primary purpose of this reorganization is not to "revolutionize agriculture," but to give a better education to the child and to make him a better citizen and a more intelligent worker. This means simply that the teaching should bear upon the life the child leads and the things that come within the range of his daily experience.

Agriculture applied to the teaching of English. — One of the main subjects of study in any educational program is English. The teaching of English, on the principle mentioned, would involve the description of common objects and the typical sights, sounds, activities, and occupations of the country. In describing these objects the pupils would learn to use their eyes and to appreciate what they saw. Passages of prose and verse descriptive of country scenery and occupations could be read with advantage more frequently than they are at present. The pupils through their daily experiences would realize the truth of the literature and the richness and beauty of the life it reveals.

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[1] Industrial Education in Schools for Rural Communities. National Education Association. *Proceedings,* 1905.

This method would teach English at least as effectively as it is now taught, would have an equal cultural value, and would unconsciously direct attention to farm and country life. Unfortunately, few school readers of this character are available, but the need is being felt and steps will doubtless be taken to meet the requirement. The Department of Education for the Province of Ontario is having a reader prepared along these lines.

Agriculture applied to the teaching of arithmetic. — There is no other subject in the school program that lends itself more readily to close correlation with agriculture than arithmetic; yet no other subject has failed more completely to deal with real life problems. Dr. Leonard P. Ayres[1] states that he was called upon, on one occasion, to pass an opinion on the eighth-grade textbook in use in a certain New England city. He made up an examination paper from the book, and this he induced a number of successful business and professional men to try. These were men earning from $3000 to $15,000 a year. Not one of them passed, the highest mark attained being twenty-five per cent. Dr. Ayres gave the same paper to his fifteen-year-old office girl, who had just left school from the eighth grade. She made seventy per cent of the total marks possible. If this inapplicability to the needs of practical life is found in the city, for which the textbook was prepared, how inapplicable it must be to the country where practically the same textbook is used.

When an arithmetical problem has been worked out, the answer should state a fact worth knowing and remembering, and that fact should be one which has some application to the district in which the pupil lives. In country districts the problems might deal with the price of farm produce, the cost of various farming operations, estimates of the cost of transport, cost of erecting simple buildings, increase and decrease of yield per acre, and many other farm problems. Every school should have as part of its equipment a set of weights and measures, a pair of scales, and a graduated rule. With these many practical problems can be worked out, and the whole subject of arithmetic made more practical and more interesting.

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[1] Commissioner of Education. *Report*, 1912. United States Bureau of Education. Washington, D.C.

Agriculture applied to the teaching of geography. — This subject should be based largely on the observation of local conditions, as climate, prevailing winds, rainfall, soil, and the like, and their effects on animal and vegetable life and on the activities and occupations of mankind. It is not difficult to see how teaching along these lines would give interest to the most monotonous country life, and make a walk through the fields a tour of observation and education. The country does not provide the attractions of the city, but if in his early years the boy can be shown how intensely interesting are all the sights and sounds of the country, he will more likely be content to find his life-work there.

This method may be applied, perhaps in a lesser degree, to other subjects on the program. If the principle "from the known to the unknown" be followed, it is evident that the only effective way of educating the child in the country will be through agriculture, which comprises the everyday life of the farm and the home. This type of education will be of no less advantage to the boy who afterwards moves to the city. He is being trained in a more effective manner by these methods than he could possibly be by the use of illustrations that are foreign to his daily experience. Much has been accomplished in many schools without any formal introduction of agriculture as a subject of study; but more than this ought to be done. Agriculture, in name and in fact, should have a place on the program of every rural school.

NATURE STUDY: ITS PLACE, PURPOSE, AND CHARACTER

The basis of any rational course in agriculture is nature study, but this, like agriculture, has a past to live down. Nature study, at first intended to cultivate habits of observation, has had a number of other purposes superimposed upon it. It "came into our schools, after efforts to teach agriculture had failed owing to lack of demand for it and want of preparation among the teachers, after the 'object-lesson' fad had begun to die away, and when so-called 'elementary science' proved too dull even to thoroughly awaken the interests of the child."[1] Nature study is difficult to define, and the line that separates it from agriculture is still more difficult to discover, so imperceptibly does one shade into the other. Nature study, as far as it is natively taught, is agriculture.

There is a wide difference between lessons on natural objects and nature study; between an object lesson on a piece of coral and the study of the rock that wears down to form the fertile soil of the farm; between a lesson on an ostrich from a picture on the wall, and a study of the poultry in the farmyard; between a lesson on the cocoanut palm and the study of cabbages or corn grown by the pupil. Nature study implies accurate observation, but accurate observation does not necessarily mean complete observation. One should not expect as complete observation and inference, even in regard to the simplest phenomena, from young children as from older pupils, but the observation, as far as it goes, should be accurate.

The history of education exhibits many peculiarities. All subjects are first placed on school programs for their utilitarian value. Then long after utilitarian value has disappeared they are retained for their cultural value, and later they are dropped for the sake of subjects that are supposed to contain both values. This has been somewhat the case with regard to nature study. The economic and practical applications have been ignored, and the cultural aspects strongly emphasized, but that both values can be secured by proper treatment is now being conceded.

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[1] Agricultural Education. United States Bureau of Education. Bulletin 2. 1907.

The study of the horse is just as much nature study as is the study of the development of the frog from spawn. What is the objection to teaching the boy about the horse, its characteristics, its capacity for work, the kind of food and treatment it requires in order to be able to perform the best service for its master? Dr. Andrew M. Soule, president of Georgia State Agricultural College, says, "The teacher is forever stumbling over the words 'elementary agriculture' and wondering what their significance may be. The real need is to teach the child about the life by which he is surrounded, and when this is done agriculture will be effectively taught no matter by what name it is denominated. The simplicity of the methods which may be employed with children in the common school accounts for the slow progress which has been made, for, strangely enough, every one has been trying to convert the simple elementary facts of nature into an abstruse subject, difficult of appreciation, and commonly called agriculture for want of a better name."[1]

In opposition to this view Dr. Draper once said, "Nature study has about the same relation to real agriculture that sloyd has to laying out an electric light plant for a city, or laying down the keel of a battleship — calling it agriculture will not increase its importance so much as it will confuse some minds and subject us to the criticism that we are not doing what we proclaim."[2] But the views expressed by Dr. Soule are rapidly coming into general practice, and nature study is being given an increasing economic and agricultural trend without at all lessening its cultural value.

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[1] Conference for Education in the South. *Proceedings* of Thirteenth Annual Conference.

[2] Draper, Andrew S. *Agriculture and its Educational Needs.* New York State Education Department. Albany.

Nature study through collections of natural objects. — Many schools have centered their work around collections of various kinds — weeds, plants, insects, seeds, eggs, etc., and one way of encouraging nature study is by their exhibition. Such exhibitions have proved very successful, not only because they afford means for the exchange of ideas among teachers, but because by means of an exhibit the good work of a school becomes more widely recognized and serves as an incentive to good work in other schools. In this connection, however, a word of warning is necessary. No encouragement should be given to collecting merely for the sake of collecting. In collecting grasses, weeds, minerals, insects, and the like, there should be a definite purpose. Much injury has been caused to local flora and fauna by indiscriminate collectors. It should be remembered that the less common a plant or a moth or a bird's egg is, the less valuable it is from the nature study, as distinguished from the naturalist's, point of view.

THE SCHOOL GARDEN

School gardening may be made a valuable adjunct to this work. The garden will not only aid the nature study, but by its means definite formal instruction in agriculture may be given. It is probable that the development of the school garden will afford the best means of giving agricultural training in the elementary school. If education in agriculture is to become efficient, a place must be provided for its practice. As a school subject, gardening possesses the double advantage that it affords exercise in the use of tools as well as a means of instruction in nature study and elementary agriculture.

The work for very young children will of necessity differ from that given to older pupils. It is not always essential that there should be garden plots. Much can be done with plants in the school windows, arranged in pots, boxes, and baskets. For the junior pupils, gardening should be restricted to growing a few plants on small plots, one or two square yards in size. In most cases the heavy work will have to be done for the children. It is not until eleven years old, at least, that boys as a rule are strong enough to use ordinary gardening tools. In some cases the cultivation of a common plot by all the boys has been found advisable. This encourages coöperation and mutual help. In this case care is needed to prevent one or two boys from doing all the work while the rest look on. Educationally, the advantage lies with the individual plots, as then good and bad work can be seen and the responsibility therefor fixed. If the girls also take gardening, their plots should be somewhat smaller than those given to the boys, and particular attention should be paid to growing flowers with a view to cultivating a sense of the beautiful, as well as to the use of flowers in adding to the attractiveness of the home.

In addition to teaching the proper use of tools and the study of plant life, gardening should also be used as an exercise in practical arithmetic. The pupils should keep strict accounts of the cost of seed, fertilizers, labor, etc., so as to be able to compute profit or loss. The plots should be measured out by the pupils, and the plan, proposed for cultivating each, drawn to scale. A diary should be kept, and as each crop is harvested a complete account of its cultivation should be written as an exercise in composition.

Care of the garden during the summer holidays. — In some instances the gardens have been allowed to become an eyesore during the summer months when the schools are not in session. When this has been done, much of the good resulting from the instruction has been lost and the movement has received a setback. By a little foresight and organization this can be avoided. When the Macdonald school gardens were being introduced into Carleton County, Ontario, the traveling instructor usually spent an hour a week during vacation at each school garden. Each pupil having charge of a plot was expected to meet him, or, in the event of absence, was held responsible for arranging with some other pupil to tidy up his plot. Some schools paid the janitor or other suitable person a small sum for looking after the general condition of the plots and walks.

In connection with the summer vacation problem, it should be noted that after the garden has been properly rid of weeds and weed seeds, there will be much less need for weeding after June 30. In some rural districts it might be an advantage to shorten the summer vacation and lengthen the winter one. The care of the school garden during the summer presents no difficulty that cannot be effectively met by teachers and parents in coöperation.

School gardening in towns and cities. — School gardening is a form of instruction that is just as applicable to the town as it is to the country. In some cities the work is considered important enough to warrant the appointment of special supervisors. In Memphis, Tennessee, the boys are under the instruction of a supervisor from one and a half to two hours each week. The trustees of this city also plan to secure the use of a school farm of twenty or more acres, where the larger boys, who are not otherwise employed during the summer months, may, under proper direction, make truck gardening profitable and educational.

In Los Angeles more than sixty school gardens are in operation, under the control of a supervisor and five assistants. An attractive feature of the work in this city is that many of these gardens are vacant lots loaned by private citizens.

In Cleveland, Ohio, gardening was at first conducted jointly by the Home Gardening Association and the Board of Education. The results achieved were excellent. "At present the children's work in the school garden is voluntary and not a part of the regular curriculum, though it permeates the whole educational system. . . . The garden labels, markers, sticks, etc., are made in the manual training room; the domestic science classes cook or can the vegetables the pupils have raised; flowers and vegetables are used for drawing and painting; cotton, hemp, flax, and broom corn are raised to illustrate geography lessons; and the nature study and language lessons have been vitalized by the school gardens."[1]

Minneapolis and Philadelphia also have extensive systems of school gardens. One of the results of the work in the latter city is that more than eight thousand home gardens have been planted and cultivated under the direction of the teachers.

THE HOME GARDEN

Wherever possible, home gardens should be utilized both in towns and rural districts. Those schools that possess gardens should use the home plot as an adjunct to the school garden, and those that do not should use the home plot as a substitute. Home gardens, under the supervision of the school authorities, are proposed by Dr. Claxton "as a solution of some of the most pressing social and economic problems in city and suburban life." In a circular recently issued by the National Bureau of Education at Washington, it is suggested that many of the vacant town lots could be converted into gardens where the boys and girls could raise vegetables, berries, and fruit for pleasure and profit. These should be under the direction of a teacher employed twelve months in the year. He would be engaged in teaching elementary agricultural science in school, and in directing the school-garden work after school hours, on Saturdays, and during the summer holidays.

Dr. Claxton says, "Of the 13,000,000 between the ages of six and twenty in the cities, towns, manufacturing villages, and suburban communities of the United States, not more than fifteen per cent are away from home during the summer vacation or engaged in regular employment. The remaining eighty-five per cent remain at home without any useful, healthful, productive occupation requiring any large part of their time. On the other hand, there is much valuable land in back yards and vacant lots that is serving no useful purpose. The problem is to bring this land and these children together. The vegetables, berries, and fruits grown could be used as food for the children and their families, and the surplus, if any, should be marketed to the best advantage. Through the help of the teachers this can be done in a coöperative way. Ten or fifteen cents worth of vegetables each day from the gardens of each of two hundred children would amount to $20 or $30. . . . It is difficult to estimate the results of this plan, when it shall be in operation throughout the country. For the children it will mean health, strength, joy in work, habits of industry, an understanding of the value of money, as measured in terms of labor, and such knowledge of the phenomena and forces of nature as must be had for the understanding of most of their school lessons. They will also learn something of the fundamental principles of morality: that each individual must make his or her own living, must by some kind of labor, of head, heart or hand, contribute to the common wealth as much as he takes from it, must pay for what he gets in some kind of coin."

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[1] Commissioner of Education. *Report*, 1912, vol. 1. United States Bureau of Education.

HOW TIME MAY BE OBTAINED FOR NATURE STUDY AND AGRICULTURE

The length of the school day is at present five or five and a half hours, and the teacher will wonder how this work is to be taken without detriment to the other subjects. By careful organization, however, it can be successfully managed. Agriculture may be taken once or twice a week in place of other subjects, by arranging that through a number of weeks each half hour in the day be used for one of the exercises, and that the subjects omitted be thus spread over the whole curriculum. By a program of this character, no appreciable loss will be felt, particularly if the subjects be well correlated.

The teacher should not consider the work done when the period called for by the school time-table has been employed. If the work has been taught in the right spirit, it will be found that the pupils will not be content with this limited time, but that they will spend much of their recreation time in the garden; and the help and advice of the teacher should be available at all times. This is no work for the teacher who measures service by the clock.

This work may be pursued to a great extent, by progressing from the elementary nature study of the lower grades to the intensive agricultural work of the higher, and the teacher who approaches it from the right angle will find the interest growing and will receive the help of all in the district who have the welfare of the neighborhood at heart. The attitude of the teacher should be that of a fellow learner with the pupils. When any difficulty of a technical character arises, he should make use of the knowledge of practical farmers in the district.

HINDRANCES TO THE INTRODUCTION OF NATURE STUDY AND AGRICULTURE

Every new subject has had to fight its way for recognition among school studies, and the battle for agriculture is not yet won. It will now be pertinent to consider the main objections that have been urged against the introduction of agriculture.

The nature of the subject. — First comes the general objection applied to every new subject that has been introduced during the past twenty years. It is admitted that the duty of the State to train its boys and girls is unassailable, but it is argued that, when it goes beyond this and assumes to teach them trades and professions, it is going beyond its function and is invading the realm of individual rights and responsibilities. The field of State control has been considerably extended of late years, and now all matters that concern the educational, social, business, and economic life of the individual are considered to come fairly within its province. However we may differ as to the methods by which the principle is to be applied, it is now conceded that it is the function of the State to train its boys and girls so that they will become efficient social and economic units. In carrying out this principle the claims of agriculture cannot be neglected.

The overcrowded curriculum. — It is said that the curriculum is already overcrowded, and this is frequently urged as a reason why agriculture should not be given a place. To make room for agriculture it may be necessary to omit much useless or less important matter from the subjects now on the program. In deciding what shall be omitted, a committee of the National Education Association suggests that the following tests be applied: Has the subject value as usable knowledge sufficient to warrant its retention? Is there other matter of greater value as usable knowledge, not now taught, but which can be taught if substituted for that of less value? If its value as usable knowledge is not sufficient to warrant its retention on that ground, has it a value for training which will justify the expenditure of the time and effort essential for its mastery? Is there other matter with as great value as knowledge, but with greater value for training, which can be put in its place and for which there is no time unless it can be put in that place? The committee believes that there is no justification for the retention of any matter in the course of study, whatever be its knowledge and training value, if its retention prevents the introduction of other material having greater value in both directions. They further express the belief that the application of these tests would result in such a reduction of subject-matter, and such an understanding of the knowledge and training value of industrial subjects, as would give them their proper place in the course of study without any overcrowding.

Immaturity of pupils. — It is argued that the pupils are too young and immature to appreciate and understand the elementary facts of agriculture. The fact that the pupils are immature is the greater reason for using their environment as an instrument in their education. In the case of rural districts, that environment is largely agricultural, and many of the underlying principles of agriculture are capable of explanation not too difficult for the child to comprehend. Examples are to be found throughout the country of even kindergarten children taking great interest in simple gardening. Even if the facts are not understood in their entirety, they arouse curiosity and interest and prepare the mind for further investigation later on. The immaturity argument can be as well applied to practically every subject that appears in the curriculum. This argument is valid only when the subject-matter of the lessons given has not been sufficiently considered from the point of view of the age of the child. A lesson on the maple leaf may be given with equal benefit to the first-grade pupil and to the fifth-grade pupil, but to attempt to give the same lesson to both would be folly.

The employment of women as teachers. — The fact that the teachers in the rural schools are mainly women is also urged as a reason for omitting agriculture. This argument would probably be better stated by saying that the lack of teachers with proper training makes it impossible to teach agriculture effectively. The argument is not so much against the sex as against lack of training. But, if this argument is to be admitted, does it not apply with equal effect to all the subjects taught in the rural school? Dr. Draper once said: "And the gods of the Greeks, mean and sordid as they were, would laugh at the spectacle of girl teachers training farmers' boys old enough to receive it in the intricacies of real agriculture. Generations will come and go before there is any substantial result to agriculture through the girls in the normal schools."[1]

This argument depends almost entirely on the meaning that is read into the word "agriculture." If it is taken to mean the art of practical farming, then agriculture cannot be taught in the elementary school, nor, indeed, in any other kind of school. The teachable facts of agriculture are many, some simple and easy to understand, and others complex and entirely unsuited to elementary schools. This being true, it is simply a question of selection and treatment. It would be extremely absurd, of course, to argue that because mathematics is such a large subject we should not teach any of it in elementary schools; yet this is precisely the position that many persons take with reference to the teaching of agriculture.

At a Conference on Education in the South, held at Little Rock, Arkansas, one of the speakers said: "Some three years ago I sent a questionnaire to twenty or thirty schools in seven states. My replies from teachers of the grades from six to nine, mostly seven and eight, who were teaching 430 boys and 396 girls, showed twenty-two schools which found the pupils interested in the study of agriculture. None of them were uninterested. In eighteen schools the parents favored this instruction, in two opposition was met. These teachers were mostly women. These letters, as well as my own observation, convince me that the woman teacher can teach agriculture successfully if she will undertake it. She can teach as large a percentage of the teachable agriculture as she can of the teachable history or geography or English, and with more effective results. She cannot make a farmer of an eighth-grade boy, nor can she make him a general by teaching him of great battles. This is not the object, but she can teach him that which will tend to make him a better farmer, and lay a foundation for his own further development. I contend that any teacher who can teach history, grammar, or hygiene well can teach agriculture well."[1]

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[1] Draper, Andrew S. *Agriculture and its Educational Needs.* New York State Education Department. Albany.

The limited time available. — It is contended by some that all the available time is required for the "fundamentals." What are fundamentals? The day when education could be confined to reading, writing, and arithmetic has long since passed. If it had not, even the so-called fundamentals could be better taught by using agriculture as a means of teaching them to the country child. It is said that the hours are too short, and that when the child can go to school only four or five months in the year there is little time in the few years that he has in school for the study of even necessary subjects; but whether agriculture be taken or not, these conditions cannot be justified. The question of time is determined by the short length of the school term permissible in many states, the irregular attendance, and the absence and non-enforcement of compulsory attendance laws. All these can be remedied if proper steps be taken.

The conservatism of school officials. — The introduction of agriculture has been hindered by the conservatism and indifference of school officers more than by any other cause. This is true not only of local officials, but also of state and county officials. Some professors of agricultural colleges have in the past opposed this movement. They doubted the wisdom or the possibility of teaching agriculture in the common schools, owing to the absence of textbooks or for some other reason. It is always easy to conjure up difficulties, but it is an incontrovertible fact that, in those states where all the officers are coöperating in conducting an energetic campaign along these lines, agriculture, notwithstanding the difficulties, is actually being taught with some considerable measure of success; and teachers who feel that they are unprepared are taking advantage of the numerous and readily available opportunities now offered them to qualify for this work.

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[1] Conference for Education in the South. *Proceedings* of Thirteenth Annual Conference.

BENEFITS TO BE DERIVED FROM THE TEACHING OF NATURE STUDY AND AGRICULTURE

Many reasons have been given for teaching agriculture in the elementary schools. The following, adapted from the course of study for the State of Illinois, include the main arguments: —

1. To cultivate an interest in country life, to instill a respect for the occupation of agriculture, and to create a due regard for the earth and its products.
2. To create a regard for industry in general, and an appreciation of the material side of the affairs of a highly civilized people.
3. To cultivate the active and creative instincts, as distinct from the reflective and receptive that are almost exclusively used in our schools.
4. To inculcate courage under failure and modesty under success, putting to the test early in life the ability to do a definite thing.
5. To train the pupil in ways and methods of acquiring information for himself, and incidentally to acquaint him with the manner in which information has been originally acquired and the world's stock of knowledge has been accumulated.
6. To connect the school with real life, and to make the value and need of school more apparent.
7. As an avenue of communication between the pupil and the teacher, it being a field in which the pupil will likely have a larger fund of information than the teacher, but in which the training of the teacher can help to more exact knowledge.

SCHOOL AGRICULTURE AS A MEANS OF KEEPING THE BOY ON THE FARM

One of the reasons generally given for teaching agriculture in the elementary school is that it will tend to keep the boy on the farm. What right have we to keep the boy on the farm? There is no more reason for telling the son of the farmer that he must follow in his father's footsteps than there is for telling the son of the blacksmith or the carpenter that he must adopt his father's trade. All that we have a right to do is so to train the boy, by the use of the things that lie around him, that he will be able to make an intelligent choice uninfluenced by extraneous considerations and ephemeral attractions. It is to be hoped that many city boys will go to the country, and it is certain that many country boys will still go to the city; therefore the education in the elementary grades will have to be suited to both classes.

Perhaps the most vital reason for using agriculture in the education of the country child is that it is in strict accordance with that recognized principle of educational psychology which demands that education should be built upon past experience. If this be accepted, the daily experience of the farmyard and the farm home will furnish the groundwork of the teaching in the rural school; it will be the common stock from which other subjects grow; and the extent to which they grow will be limited only by the age and capacity of the pupil and the interest and enthusiasm of the teacher.

CHAPTER VI

THE CONSOLIDATION OF SCHOOLS

For much of the country the consolidated rural school offers the best solution of the problems of agricultural education. The consolidated school affords, also, the basic elements for a complete social and educational reorganization of country life.

The term "consolidated school" has hardly yet been satisfactorily defined. The grouping of two or three schools might be called consolidation, but the tendency now is to regard the ideal consolidated school as having not less than four teachers, serving an area of twenty to thirty square miles, unless the population be very dense, and offering facilities for transporting the pupils to and from school.

THE INCEPTION OF THE CONSOLIDATION IDEA

The first consolidated school in the United States was organized in the State of Massachusetts. In 1869, the legislature of that state authorized any town to raise money by taxes in order to provide for the conveyance of pupils to and from school. At first pupils were transported to the high school. Afterwards many district schools in sparsely settled places were closed, and the pupils were conveyed to the school in the nearest town or village. Later, the money so provided was used to convey pupils to the consolidated school. The first actual case of consolidation was effected at Quincy, Massachusetts, in 1874.[1]

For the first twenty years after the inception of the idea, the growth of the movement was very slow. This was due to many causes, but chiefly to the apathy of school officials

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[1] Consolidation of Rural Schools. United States Bureau of Education. Bulletin 30. 1914.

THE MONTAGUE (MASS) HIGH AND CONSOLIDATED SCHOOL

It was probably the first “consolidated” school in the United States. In 1875 three districts then existing closed their small schools and constructed the building shown above

and the conservatism of the people. It is always difficult to make changes of any kind in rural districts, and changes in educational organization are the most difficult of all to bring about. The rural population needs leaders, and those who should have been the leaders had not yet recognized the importance of the movement.

Another hindrance to the acceptance of consolidation has been the fact that, under the present state of the law, the people themselves must vote on its adoption. The voters in the districts where consolidation is most needed are often loath to change, unprogressive in educational affairs, jealous of those living in other districts, and lacking a proper conception of the importance of the best educational facilities.

"Progress by consent of the voters is a slow and arduous undertaking. Matters involving the fate of nations are often settled more easily than are proposals for the improvement of the rural schools."[1] This attitude still exists, but fortunately conditions are being rapidly improved, and the many examples of successful consolidation are changing the attitude of both the school officials and the rural voter.

THE PRESENT STATUS OF THE CONSOLIDATION MOVEMENT

In the United States. — There are now more than 15,000 consolidated schools in the United States. The movement has probably made the greatest progress in the State of Indiana, due largely to the far-sightedness of the educational leaders in that state in securing the necessary legislation. The management of the schools in Indiana is in the hands of one man, who is elected by the people, usually without reference to his political affiliations. He employs teachers, buys supplies, and directs the construction and improvement of buildings. He may legally close any school having an attendance of fifteen or fewer, and must abandon and consolidate all schools having an average daily attendance of twelve or fewer.

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[1] Consolidated Rural Schools. United States Department of Agriculture. Bulletin 232.

Consolidation has led to the organization of the rural high school. In practically every state in the Union consolidation has proved a success, and the question of its general adoption is scarcely any longer debatable.[1]

In Canada. — In Canada, the movement has not made great progress. The Province of New Brunswick has four consolidated schools. In 1904, a type school was built under the Macdonald Fund. Seven districts were united; they were sparsely settled and had only one hundred and thirty pupils. The country was hilly, the people poor, and the distances long. The Macdonald Fund paid the expense beyond what it had cost the school sections for their separate schools. After three years' experience the people concluded that they could not bear the expense of such a school alone, so arrangements were made to continue the assistance for three years longer. At the end of the fifth year the building was burned, but in spite of the additional heavy cost of rebuilding, the people declined to abandon the consolidated system and voted to rebuild and continue the school.

Consolidation was begun in one district in Ontario in 1903, but the career of the school has not been fortunate. The fifteen trustees of the five sections united formed the consolidated school board. The sections were to maintain their separate identity and retain their old premises in case they should wish to return to the individual school system. The law did not provide for a joint annual meeting, and local differences and jealousies arose from this. After the expiration of the three years assigned for the experiment, three and a half sections withdrew, not, it is said, because they did not appreciate the value of the school, but because it was unfavorably situated and the cost of transportation

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[1] Consolidation of Rural Schools. United States Bureau of Education. Bulletin 30. 1914.

THE JOHN SWANEY CONSOLIDATED SCHOOL

excessive. Some of the children had to be transported across a city of 16,000 people. When the vote to decide the fate of the school was taken, every ratepayer, with one exception, who had children attending the school voted for its continuance at the additional expense, but an adverse vote was given by those ratepayers who had no children attending.

The school was placed in close proximity to the Ontario Agricultural College so that it might be seen by the farmers who, in large numbers, annually visit the college. This location, because it was not the true center of the schools consolidated, had much to do with the failure of the experiment. In spite of all this the school has proved itself desirable. It is being continued as a two-school consolidation, the pupils from one section being brought in on the electric railway. This whole experiment has been unfortunate, which is much to be regretted, since, according to Mr. A. C. Monahan, of the United States Bureau of Education, Canada, owing to its excellent system of supervision and government support for schools, is in a much better position to undertake consolidation than is the United States.

NOTABLE EXAMPLES OF CONSOLIDATION

The John Swaney Consolidated School.[1] — Probably one of the best examples of consolidation is the John Swaney Consolidated School of Putnam County, Illinois. This school "is one of the best examples of public sentiment, private liberality, and wise organization combined, that is to be found in any consolidated district in the United States."[2] As a concrete example of the purpose and possibilities of such schools, it will repay careful consideration.

The school is situated in the open country, a mile and a half from the nearest village and ten miles from a small town. The community possesses one of the earliest "granges," and the initiation of the campaign which finally led to the establishment of the school was due to this organization. The agitation for consolidation began in the spring of 1905. Not all the voters in the community were members of the grange; some were foreigners who objected to any increase in the taxes, and some were absentee landowners who objected still more strongly. At first, five districts were considered as suitable for consolidation, but owing to local jealousies it was impossible to decide on a location for a school that would be satisfactory to all; and notwithstanding many meetings to settle the problem, the attempt failed.

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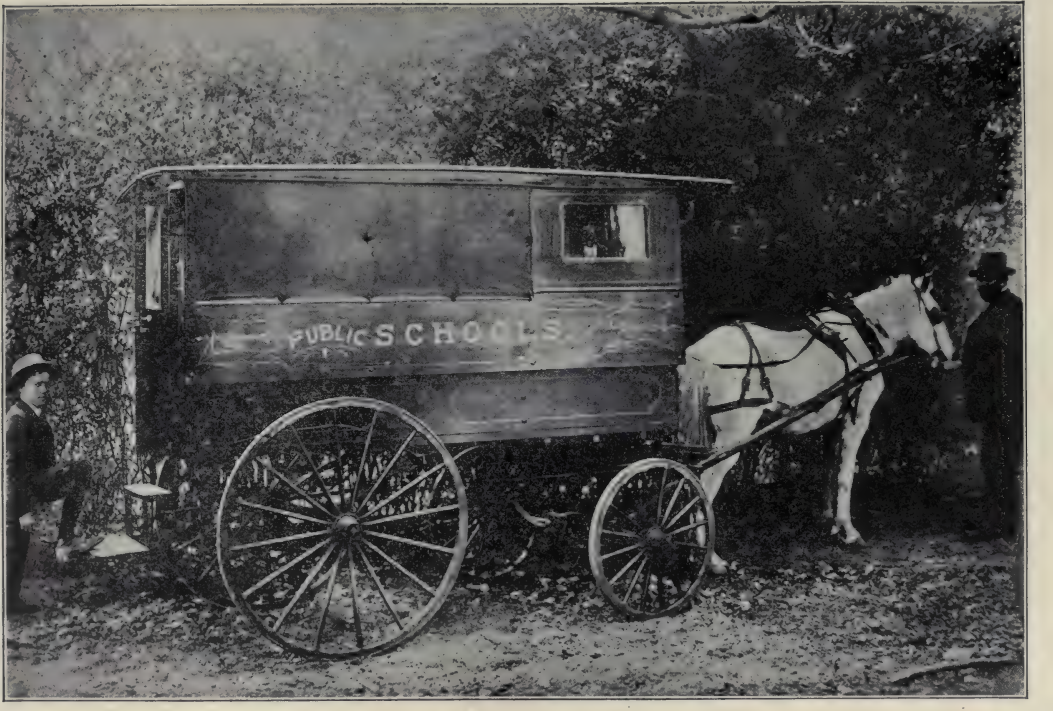
[1] Industrial Education in Rural Schools. Committee of the National Education Association. *Proceedings*, 1909.

[2] Carney, Mabel. *Country Life and the Country School.*

The next attempt considered only three of the five districts that entered into the first plan. Petitions were circulated. On their return it was found that the promoters of the movement had a clear majority of the legal voters of each district concerned. These petitions were then presented, as required by law, to the township trustees, who were enjoined to grant the request of the petitioners. But feeling ran so high that they refused to do this. The next step was to carry the petition to the county superintendent, and he, in spite of great pressure to the contrary and at considerable danger to his political prospects, reversed the decision of the trustees. One year later the building was dedicated.

This conflict between the districts was exceedingly unfortunate, as it led to considerable economic waste. The building is situated near the geographic center of the township, but serves less than one half the population. The area of the district served is only fourteen and one eighth square miles, and the benefits of the school are too great to be restricted to so limited an area.

The community is not wealthy, but generous donations amounting to about $2000 were made. The building was


PUBLIC SCHOOLS

VAN USED FOR TRANSPORTATION OF PUPILS

originally planned to cost about $12,000, but with the equipment the cost reached $15,000. It is of brick construction and contains four good schoolrooms, two laboratories, a library, offices, a manual-training room, a domestic science kitchen, a basement playroom, a furnace-room, cloakrooms, indoor toilets, and a large assembly-room. It has its own water system and lighting plant. The school is indebted to John Swaney, one of the most prosperous farmers of the district, for a gift of twenty-four acres of beautifully wooded land for a campus. In this natural park there are over 300 beautiful trees, and through it winds a stream.

A school of this type, which serves a large area, necessitates transportation, and many were the prophecies of failure on this account. The highways of the district are common earth roads and transportation, it was said, could never be accomplished successfully. The school in actual operation has proved the contrary. Two wagons specially made for the purpose are used. In winter they are comfortably heated. The driving contract amounts to $40 a month for each wagon. They have been running since September, 1906, without interruption.

One of the features which marks this school as a leader, even among consolidated schools, is "Clear Creek Cottage," the home that was created for the teachers. One of the abandoned school buildings about forty rods from the new school was in very good condition. It was remodeled into a seven-room cottage, a housekeeper employed, and the problem of boarding and lodging the five teachers solved. The janitor is employed for the entire year and is provided with a cottage in another part of the campus.

The staff consists of a principal, who is a college graduate and a practical farmer, and four teachers. Agriculture and domestic science are taught throughout the course of study, and are stressed in the higher grades. Six acres of land are used by the high school as an experimental plot, and the children of the lower grades have a school garden every year. Sewing, manual training, nature study, music, drawing, and physical training are also included in the course of study. The high school is approved by the State University, and a large percentage of the graduates enter the College of Agriculture. The closest coöperation is maintained with the homes throughout the community; two leading farmers give instruction in corn-judging, and horses, cattle, and sheep are frequently brought from the homes of the pupils for class study.

The school also pays particular attention to the social activities of the community. Two literary societies, which include all the pupils, are in operation, meeting twice a month. Two or more good plays are given each year. Adequate attention is paid to music and athletics. Conferences of parents and community gatherings of every description are held in the assembly hall, and an annual lecture course of the highest grade is given. It is said that "there is no farm problem, and no moving to town here." Apart from the donations of Mr. Swaney, nothing has been done in this district that could not be done in any community that resolutely sets itself to face the problem. Millions of dollars are donated every year for education and other purposes, and here is an opportunity for some philanthropic person of means to render a service to the nation which will bring large results.

The Mays Lick School.[1] — The consolidated school at Mays Lick, Mason County, Kentucky, affords a remarkable example in overcoming difficulties that appeared to be almost insuperable. After several fruitless meetings to choose a site for a high school, the Mays Lick people secured the school by agreeing to vote each year for five years a local tax of $1000. Fifty substantial men signed a contract that, if in any year the tax should not be voted, they as individuals would pay the thousand dollars. An option was secured on ten acres of land, and building plans were drawn and contracts called for. When the contracts were ready to be signed, it was found that there was no money to build and the law prohibited the creation of a debt that could not be paid from that year's revenue. To overcome this difficulty the "Mays Lick Improvement Company" was organized. Fifty shares at $100 each were bought by members of the community, and $20,000 was borrowed. The company agreed to erect on the ten acres already chosen a building according to plans and specifications furnished by the board of education. The board agreed to pay the company a rent of $3000 annually in addition to the $1000 paid by the district, until the company had received all the money expended with six per cent interest, on condition that the property should then be deeded to the county.

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[1] Consolidation of Rural Schools. United States Bureau of Education. Bulletin 30. 1914.

The complete building cost about $32,000, and seven districts were consolidated. An injunction was taken out to prevent the taxes from being used to pay for the transportation of pupils, and a special act of the legislature was necessary to legalize contracts entered into on this account. In addition to the money raised by taxes, much was secured by private subscription and community effort — and Mays Lick is not a wealthy district, as may be indicated by the fact that fifty-six per cent of the children live in rented homes. The grounds were sodded by the boys and the farmers of the district, a job that would have cost $250 if done by contract. All things considered, the experience of this district affords one of the best examples of hard work which resulted in the development of a proper community spirit, and which was crowned with complete success.

These two examples are the practical evidence of what can be accomplished in consolidation when purpose, intelligence, and initiative combine.

THE EXPENSE AND THE EFFICIENCY OF THE CONSOLIDATED SCHOOL

One of the earliest arguments in favor of consolidation was its greater economy as compared with the old district system. However, in the gross amount of money expended, consolidation as a rule costs more, and this fact should be squarely faced. It has been proved beyond contradiction, however, that the cost per pupil per month at the small school before consolidation was greater than the corresponding cost after the consolidation. That method which is the most successful in getting the largest number of children into a good school for the greatest number of days is in the last analysis the cheapest.

The farmer should not be told that consolidation costs less, but that he is getting better value for the money he is spending. He must be taught to apply to his expenditure for education the principles he applies when he is purchasing a binder, a plow, or any other piece of farm machinery. If by the expenditure of a few dollars extra he can get a much better article, it is economy as a rule to purchase the article costing the larger sum.

It is also argued that the consolidated school is more efficient in securing educational results. The argument is perfectly true from the educationist's point of view, but it is very doubtful if it is true from the standpoint of the average farmer. Usually the only way the farmer judges efficiency is by visible results, and in education this sometimes means to him results as shown by examination. In 1911, John Franklin Bobbit, of the University of Chicago, made a statistical study of the relative efficiency of the consolidated and the one-room ungraded school. From the office of the Superintendent of Schools for Delaware County, Indiana, he secured attendance statistics from six graded consolidated schools with four to eight teachers, and from thirty-four one-teacher rural schools taken at random throughout the county and having an aggregate attendance about equal to that of the six consolidated schools. All the figures were reduced to the basis of one hundred and forty days per year. The average number of days attended by the pupils in the consolidated schools was 111.1, and in the ungraded schools 107.1. In the consolidated schools the pupils attended 79.4 per cent of the time.

It was found that in the first five grades the attendance was not appreciably different in the two classes of schools, but beyond these grades the attendance was from eight to twelve per cent better in the consolidated that in the ungraded school. No figures were available to show that the consolidated school held a greater proportion of its pupils during the seventh and eight years, but it is altogether likely that this is the case. If the consolidated school can secure a larger number of pupils during the seventh and eighth years, when serious education for livelihood may be begun, then the establishment of consolidated schools is fully justified. In addition to this, a better course is provided for the high school, which can continue the vocational training.

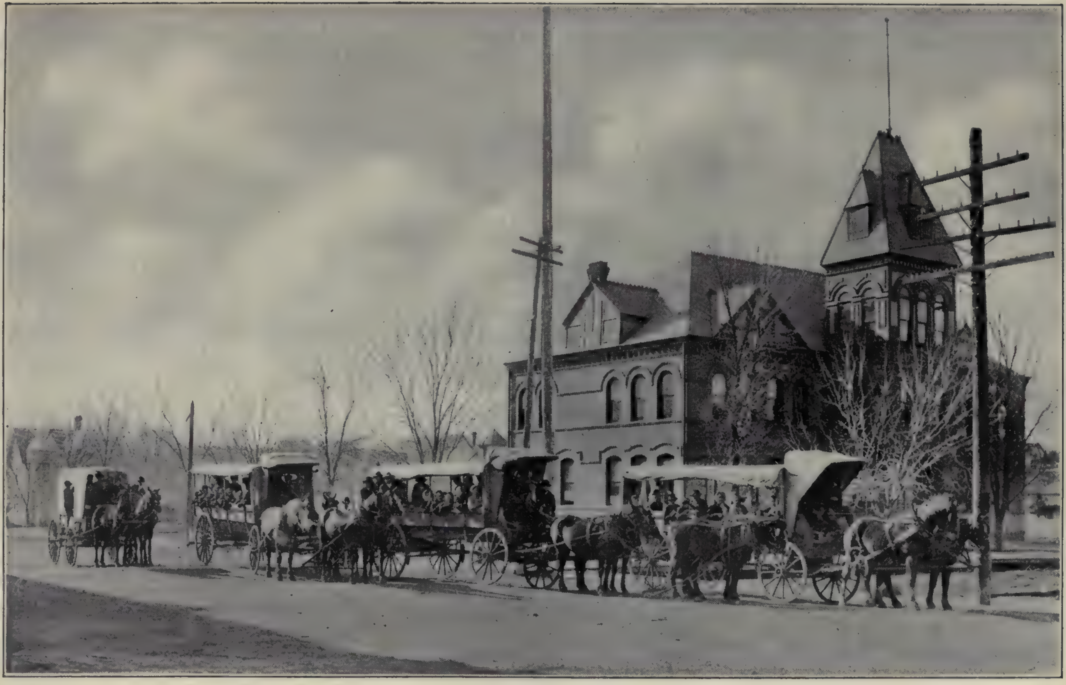
On the scholarship side, the records of the superintendent's office contained the results of the final examination given at the close of the elementary-school course. The questions and grading were uniform for the whole county, so that the results may be fairly compared. If any pupil had failed in arithmetic, the remaining papers of that pupil were not examined, so that complete results could be obtained for that subject only. The consolidated school pupils averaged 77.7 per cent, the ungraded pupils 76.7 per cent. In the consolidated schools, 61 pupils wrote on the examination and 73.8 per cent passed. In the ungraded schools, 71 per cent of the pupils took the examination and 73.2 per cent passed. If education consists in the ability to pass examinations, then the education given in the consolidated school does not, according to the above figures, appear to be appreciably better than that given in the ungraded school.

This method of measuring educational results, however, leaves entirely out of consideration a number of essential factors which are the basic reasons for consolidation. These are factors which cannot be shown by percentages. The effective teaching of agriculture by a man, and of domestic science by a woman, the greater number of pupils usually retained through the seventh and eight grades, the larger number directed to the high school, in which definite vocational training in agriculture and domestic science may be given, the improved health conditions due to better sanitation, are all within the possibilities of a well-organized consolidated school, and some of these factors cannot be fully measured in percentages.

It is possible in the consolidated school to give much greater attention to the economic aspects of the subjects of instruction than can be done in the ungraded school. The State Superintendent of Schools of Virginia says: "Unless the consolidated school tends to make the economic life of the community profitable, while it is raising the moral and intellectual life, it is failing to fulfil one of its chief missions. Country life must be made economically profitable, else the country districts will be depopulated. It is as much the duty of the education department of the state as it is of the agricultural department of the state, to help to make it so; and the consolidated school is the best center from which to accomplish this vital work. But to make country life economically profitable, and yet to permit it to remain socially unattractive, will not stop the movement from the country to the city."

SOME OF THE DIFFICULTIES IN THE WAY

The condition of the roads. — Consolidation involves the transportation of pupils, and one of the main objections is that the condition of the roads often renders transporta-



A CONSOLIDATED SCHOOL AND TRANSPORTATION WAGONS

tion difficult, if not impossible. While transportation is made easier by good roads, it does not depend on them. Even in Massachusetts, where good roads abound, a large number of children are hauled to consolidated schools daily over mud roads. In Indiana probably one third of the hauling is over dirt roads. In northeastern Ohio, where consolidation is common, nearly all the roads are dirt roads. In northwestern Ohio, where there are excellent macadam roads, consolidation has made little progress. In Kentucky, which has ten thousand miles of solid macadamized roads, consolidation has not been extensively adopted. All the above facts tend to prove that the roads or road conditions need play only a minor part in the consideration of the question, and that they need form no greater barrier to consolidation than they do to social intercourse and the hauling of farm produce.

The greater cost of consolidation. — The second objection generally urged is that consolidation will cost more. So it should; a better article is being delivered, and the people must be educated to the point where they are willing to pay more for the education of their children, not only for the good of the children but for the good of the State. Closely allied to this objection is the feeling held by some that the abandonment of the one-room school will depreciate the property in one district to increase the value of farms in the district where the consolidated school is situated. This is not borne out by the facts. Consolidation of schools means the consolidation of neighborhoods. What before consolidation were two or three separate neighborhoods become one strong, organized community, and the value of every farm within the consolidated district becomes enhanced. Reports from the state superintendents of education in Kansas, Nebraska, California, Iowa, and Vermont, all state that no depreciation has taken place, but, on the contrary, that consolidation has added to the value of the farms in some localities.

Many other objections have been raised, but there is not one that has been put forth by the opponents of the movement that cannot be satisfactorily answered from the experience of districts where consolidation has been in successful operation for many years.

HOW SHALL CONSOLIDATION BE ACCOMPLISHED

This chapter may be closed by considering the steps that may be taken to bring about consolidation in a given district. A campaign is generally necessary in order to induce the people to adopt the plan. First, the general school situation in the county should be studied. Unless this be done, several very undesirable things are likely to happen: a few isolated one-room schools may be left too far from the central school; schools may be placed in districts where the population is changeable, necessitating a change later to a more favorable location; and more consolidated schools are likely to be organized than are actually required. This latter danger should be more carefully guarded against than in the case of the district school, as a consolidated school unwisely located may easily encroach upon the field of neighboring schools and thereby become a source of permanent irritation and annoyance.

The data to be obtained in the study of the county situation consist of information regarding the location and value of each school and its equipment, the distances the schools are apart, the number of teachers employed together with their salaries and qualifications, so as to obtain some indication of the educational conditions of the community; the location of the farm homes, the condition of the roads, topographical features, such as streams, hills, etc., the number of pupils, their ages and scholastic attainments, the population depending upon each school, and the distance at present traveled by each pupil to reach the nearest school.

The data should be indicated on a map of the county, with all proposed consolidations, the suggested wagon routes, and the probable number of pupils to each school. Such a map will give a clear and comprehensive view of the school situation as a whole. The compilation of the data does not mean that a widespread agitation for consolidation throughout the whole county should be begun at once. This would be a most unwise proceeding and would probably lead to failure. There are many communities that would strenuously oppose such a movement; there are many others with an open mind toward consolidation. In many localities the subject is not understood. In some places the opposition is stronger than in others, and this opposition may be best overcome by an actual examination of a school of the new type.

The adoption of consolidation depends not only upon the way the people regard it, but also upon the feelings that exist between the communities that are to be parties to the consolidation. A community in which the best educational conditions already prevail should be chosen for the initial experiment. The agitation should not be sprung upon the people suddenly, nor should they be given the idea that consolidation is to be forced upon them. A small committee consisting of the teachers of the schools to be consolidated might first be formed. The early discussions should be for the purpose of giving information and not for argument. This information can be given by visiting in the homes and by describing some good schools to the children.

This quiet campaign of instruction may be followed by a series of educational meetings at the schoolhouse and the church, and discussions through the newspapers. The normal school, the church, the high school, and the agricultural college should all be called upon for aid. The chief point to be aimed at is the creation of a desire for cooperation, and a broader, closer relationship between the different communities; and if this can be accomplished, many of the difficulties will vanish.

By this time the district may be ready for a really aggressive campaign. It is an excellent plan to have at this stage a lecture illustrated by lantern slides, pictures, charts, etc., given by some person who has made a thorough study of consolidation. One of the government departments will generally provide this. Meetings of the people should be held in every schoolhouse, and combined meetings of all the sections should be held later. At these meetings the methods proposed for adoption and the advantages to be gained should be laid clearly before the people, questions being invited and the fullest discussion encouraged.

If the district has any wealthy farmers, it might be possible to induce them to follow the example so well set by Mr. Swaney. The whole agitation should be kept up until the people are thoroughly aroused, and the vote should be taken when the interest is thoroughly established. In view of the splendid possibilities for the efficient teaching of agriculture and the general reorganization of country life, which the consolidated school provides, any efforts that may cause the people to adopt consolidation will be amply repaid in the securing of a richer country life and a more decided vocational efficiency among the dwellers in the open country.

CHAPTER VII

RURAL SCHOOL EXTENSION

THE work that we have outlined thus far will carry the pupil to the end of the fourteenth year so far as instruction in school is concerned. There are now two other factors of great importance to be considered: first, the part the teacher can play in directing the activities of the boy outside of the school, particularly during the last two years of his school life, when he is becoming of some definite use to his father on the farm; second, what can be done for the great number of boys and girls who leave school at fourteen years of age or younger.

It is difficult for city people, and even for many in the country, to realize the change that has come over the country school. Generally they think of the old-time country school with an attendance of thirty to seventy pupils, many of them over eighteen years of age. Large classes were the rule and they were generally taught by a man, strong morally, intellectually, and often physically. But the actual condition of things to-day is very different from this.

SCHOOL CREDIT FOR HOME PROJECTS

In many states it is now becoming the practice to give credit in school for certified work done at home. Such home work as the teacher is qualified to supervise should receive her attention. Suitable home projects are corn-growing, potato-growing, poultry-raising, simple gardening, and home reading. There is no teacher, however poorly qualified, who cannot fit herself in a short time to give instruction and direction in some form of useful home work. The influence of the school must reach the place where the training is to take root, and that is the home and the farm. To many rural people the school is too far away in spirit to be of very great concern; but when it comes into actual touch with the home they regard it from a different standpoint. What may be done will depend somewhat upon the qualifications of the teacher, but the needs of the community in which she works should be the deciding factor. As soon as she has made herself acquainted with some of these needs, she should strive to qualify herself to assist in the work required. It will not be labor lost, even if she moves from the district the next year. No country school should be allowed to limit its activities to the school and its grounds.

FORMS OF RURAL SCHOOL EXTENSION SERVICE

The forms which rural school extension work has taken may be summarized as follows: —

1. Clubs of various kinds for boys and girls: corn-growing, potato-growing, canning, bread-making, garment-making, etc.
2. School fairs for the exhibition of products made or raised by the children.
3. The formation of young people's institutes, in order to provide profitable instruction for persons too young to join the regular farmers' and women's institutes.
4. Short courses, continuing for periods varying from one week to two or three months, at the nearest high school.
5. Rural evening schools for continued education, and also to provide opportunity for those whose early education has been neglected.

BOYS' AND GIRLS' AGRICULTURAL CLUBS

The agricultural clubs are associations of boys and girls who enter into a competition to determine who can grow the most and the best of a specified product on a certain area of ground, under definite rules which all agree to accept. A corn-growing club would thus deal with corn and a cotton-growing club with cotton. The contests for girls have frequently centered about bread-making, poultry-raising, sewing, or flower-growing. Eventually these clubs, which are now widespread, will probably be incorporated into some more permanent form of educational organization; but they are performing a useful function as at present constituted and they seem to be an important link in the evolution of a more efficient system. The clubs are being closely affiliated with the work of the schools and are beginning to be regarded as a definite part of the educational system.

Club work in the United States. — The first state-wide club movement began about 1898 in the State of New York, and was a natural outgrowth of the nature-study leaflets issued by the College of Agriculture of Cornell University. Owing to the popular interest now being displayed in agricultural education, the recent growth of this movement has been rapid. The first clubs organized in the United States were corn clubs, followed by tomato, cotton, and potato clubs, and clubs for raising pigs and poultry.

The contest clubs have not only secured the interest of the boys and girls, but they have also gained the active cooperation of the parents, business men, and progressive people of the community. The organization generally takes the county as a unit, and is planned through the county superintendent of schools. The teachers explain the plan and obtain names of pupils wishing to join. Seed is furnished the first year, and the contestant selects his own for the second year. The boys of the entire county are usually assembled in some central place for instruction and direction. Each boy agrees to raise one acre of corn in accordance with directions furnished. The United States Department of Agriculture provides circulars of instruction in regard to seed selection and preparation, fertilization, and cultivation of the soil. A special blank form is also provided, which, when filled in, gives a complete record of the work, including the cost and the value of the crop.

The results that have been achieved are almost beyond belief. In 1911, three boys made better records in corn-production than had ever been made before. One boy produced 212½ bushels on one acre, at a cost of 8.6 cents per bushel; another, 227½ bushels, at a cost of 14 cents a bushel; and another 214⁵⁄₇ bushels, at a cost of 14.2 cents per bushel. Four other boys produced from 210 to 225 bushels on their acres, at a cost of 20 to 35 cents per bushel.[1]

In 1912, in the State of Alabama, 137 boys produced more than 100 bushels per acre. Twenty of them made an average of 165.11 bushels. Valuing corn at $1.00 per bushel, and deducting all expenses, these boys made a total profit of $2716.89; the average profit was $135.84, and the average cost per bushel was 17 cents. In one county in Mississippi, the boys' corn club had 300 members, the average yield per acre was 70 bushels, while the average for the state was only 14.5 bushels per acre. In South Carolina, one boy raised 152½ bushels on a measured acre, while the state average was less than 16 bushels per acre.[2]

Club contests in Canada. — In Carleton County, Ontario, a potato-growing contest was inaugurated in 1912, open to boys twelve to eighteen years of age, who lived on farms not less than fifty acres in extent. Thirty-five boys entered, and twenty-two carried out the work in all its details. The plot to be operated was one tenth of an acre. The accompanying illustrations are facsimiles of the reports sent in by the winner of the first prize. Similar reports were required from each contestant. The average yield of the first six prize-winners was 388 bushels per acre,

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[1] Commissioner of Education. *Report,* 1912, vol. 1. United States Bureau of Education.

[2] Alabama's Country Schools. Bulletin 33, Department of Education. Montgomery, Alabama.

EXPENSES IN CONNECTION WITH PLOT.	$ ¢
Rent of land (at rate of $3.00 per acre)	30
Cost of labour (a) For horses (at 10c. per hour each)	1.00
(b) For competitor (at 10c. per hour)	50
(c) For other assistance (at 20c. per hour)	~~2 00~~ .50
Cost of manure (at $1.00 per ton)	2.00
Cost of commercial fertilizers	~~3 00~~
Cost of seed	~~50~~ 3.00
Cost of spraying material	.50
Total cost	$7. 80¢
RECEIPTS.	
Total value of salable potatoes on plot at 60c. per bushel	$37. 80¢
Value of unsalable tubers at 10c. per bushel	25
Total value	$38. 05¢
STATEMENT OF PROFIT AND LOSS.	
Total value of crop as above	$38 05¢
Total cost of production	7. 80
Net profit	$30. 25¢
Net cost of producing one bushel (60 pounds)	12¢
Net profit per acre from the enterprise	$302. 50¢

I hereby certify that the information submitted in this Report Form is correct and that I have conducted the work according to the specified rules of the Competition to the best of my ability

(Signed) John Robert Thomson
(Competitor.)

Dated at Cumming's Bridge
this 29th day of
Sept. 1914

FIELD NOTES ON POTATO PLOT—1914

Full name of competitor John Robert Thomson
Age on May 15th, 1914 (14) fourteen years.
Name of parent ~~or guardian~~ Peter Thomson
Post office address Cummings Bridge Township Gloucester
Variety of potatoes planted on plot Carman No. 1.
Where was seed obtained? Kenneth McDonald
Did your plot consist of exactly 1/10 acres? yes
What were the exact measurements? width 18 ft length 242 ft.
No. of rows 7 Distance apart of rows 30 in. No. plants or hills in each row 242
Distance apart of each plant in the row 12 in Length of each row 242 ft.
Character of soil black loam
Character of sub-soil sandy
What crop was grown on this land in 1913? potatoes
Date of going on land this spring (1914) May 1st.
How was it cultivated before planting? ploughed and disced.

Condition of land at time of planting in good condition and well worked up
How much manure did you apply on your plot? about two tons
Kind of manure applied well rotted stable manure
Did you use any commercial fertilizers, and if so what kind and how much? no.

Date of planting plot May 15th.
Did you use whole or cut potatoes Cut potatoes
If cut potatoes were used, how soon after cutting were they used? immediately
Did you sprinkle lime or land plaster on the sets after cutting? no
Did you treat the tubers with formalin to prevent scab? no
How deep were the sets planted? about four inches
How was planting done? (by hand, by machine, in furrow or dropped in holes dug with hoe) dropped in holes
Number of pounds planted (135) One hundred and thirty-five pounds
Did all the sets grow and produce a good even stand? yes
Dates of different cultivations between planting and digging time June 7 June 14 June 21 July 2
Total number of times cultivated (4) four times
Did you cultivate after each heavy rain? When possible
Dates of spraying for bugs June 27 July 14

Dates of spraying with Bordeaux Mixture No Bordeaux mixture used

Did leaves ever become badly eaten by bugs? No

Were tops beaten down badly by storms? June 26th beaten down by hail and wind.
Date of first frost to blacken tops June 4th slightly f[illegible]
Condition of tops at date of digging tops were dead

Date of digging September 11th.
Did you select any specially good hills to sow a seed plot next year, and if so, how many? (60) sixty hills
Would you like to do some special work with potatoes again next year? yes
About what would be the average yield of potatoes per acre in your district this year? About 275 bus. per. ac.

that of the first thirteen was 343 bushels per acre, and that of all competitors was 285 bushels per acre, while the average for the whole province was only 134 bushels per acre.

The results obtained in Canada through the Macdonald movement are interesting from an economic point of view. The improvement was due entirely to seed-selection by boys and girls. Selection was carried on for three years and resulted in increasing the yield of spring wheat by 18 per cent in the number of grains per hundred heads and by 28 per cent in the weight of grains per hundred heads. Equal improvements were also shown in the case of oats, during a three-years course of seed-selection.

The educational results of this movement have been as great as the economic returns. The boys have learned to observe more closely not only their own particular crop and all things affecting it, but also corresponding features of other crops. They have learned how to keep simple accounts and how to describe the work they have done, and they have developed a certain power of initiative. The social instinct and the ability to work with others have been strengthened, and a basis has been laid for that future coöperation which must be adopted if farming is to reach its highest success as a business.

SCHOOL FAIRS

Another form of extension work that needs to be considered is the holding of school fairs. This movement has grown naturally out of the club work, and is really another form of club work, as the contest idea is at the root of both. These rural school fairs are capable of rendering great assistance to the work of the rural schools both directly and indirectly, in arousing public interest which is so necessary to the welfare of schools.

School fairs in Ontario. — School fairs have been largely developed in the Province of Ontario. During the year

1913, seventy fairs were held in different parts of the province. There was an average of 350 exhibits at each fair, which gives a total of 24,500 exhibits. While at some of the fairs one pupil made several exhibits, it can easily be seen that this secured the active interest of at least 15,000 children. Then, too, there were present at each of these fairs from 500 to 1500 persons, with an average perhaps of 700, which gives an approximate aggregate of 49,000 persons interested. In view of the fact that the school fair had been adopted only the previous year as a branch of the general work of the Provincial Department of Agriculture, the progress is rather remarkable. Many persons who have been present at these fairs, and are in a position to estimate their value, have pronounced them one of the most practical means yet evolved for interesting the boys and girls in agricultural affairs.

The first step in organizing a rural school fair in any district is the establishment of a rural-school-fair association, with regular officers, just as for adult associations. In this way the boys and girls are given some of the honor and responsibility, and at the same time have opportunity for the development of executive ability. The district representative of the Department of Agriculture, after organizing the association and getting a number of schools interested, distributes pure seeds of various grains and vegetables, and eggs from pure-bred strains of poultry. These are taken care of by the children during the year, and from the results obtained the exhibits are made. The prize money is contributed by local people, municipal councils, school boards, and other public bodies.

The fair held in the Blenheim Continuation School was participated in by twenty-four rural schools. This was made possible by the coöperation of the public school inspector, the district representative, and twenty-four rural school-teachers. The exhibits, apart from curios, were the products provided by the children, and consisted of fowls, chickens, geese, ducks, and turkeys, and a wide assortment of agricultural produce. The work of the girls consisted in cooking, sewing, and butter-making. During the afternoons, contests of various kinds were held. Seventy-five boys entered a corn-judging contest, fifty boys and girls entered a seed-identification contest, and thirty girls entered a sewing contest. The attendance was about 2000, and the actual exhibits were over 2000, filling the eight rooms of the continuation school in addition to the grounds, which were devoted to poultry of many kinds.

The district representative in the County of Durham has mapped his county into a series of school-fair districts, embracing from five to nine school sections each. At one of the fairs in this county, 204 bred-to-lay pullets were exhibited by children to whom eggs had been allotted by the Agricultural College. At the same fair a large tent, sixty by eighty feet, was filled with produce of field and garden, the poultry being shown outside. In organizing and conducting the exhibits in this county, the children were given much training in the business side of fair organization; not all the stress was placed on production. The summer-long management of affairs prior to the great day of the fair was perhaps of greater benefit to those engaged in it than the school fair itself.

Method of organization and management. — Let us take one of the districts into which the county is divided, containing nine school sections. Each school elected three members to represent it in negotiations to follow. The pupil securing the highest number of votes in each school was termed "director." These primary elections provided each rural school with three representatives. The directors from all the schools in the district formed a township body, known as the Board of Directors, and this body of nine members was responsible for all matters concerning the fair. Boys and girls alike were represented, no distinction being made. The board had work to do, not all of which was child's play. A prize list was drawn up, and the money had to be provided. The youthful board interviewed the township council, the trustee boards of the nine schools, and the provincial and federal Members of Parliament, and secured donations from all. The board met six times during the summer for the transaction of business. Minutes were kept, and every entry was preceded by a resolution, moved and seconded according to proper form. The secretary had many letters to write, and he used good note-paper bearing the heading, "South Hope Rural School Fair Association." Entry tickets were printed, and books were kept as carefully as those of the large state and county fairs.

The school-fair idea in Ontario was originated by two of the county representatives of the Department of Agriculture, and much of the success at present achieved is due to these officers. After living on the ground for two years, they knew the actual condition of the country districts, and they believed that in this effort they had found the best method of dealing with the agricultural problem so far as it relates to the children in the elementary school. The active coöperation of all the teachers is secured, and the interest excited in the neighborhood is intense. The school fairs are the subject of thought and attention in the farm homes for miles around. The days on which the fairs are held bring the people from outlying districts together, and thus a desirable social feeling is developed. The parents are best reached through their children, and for this reason the movement is bound to react favorably on the elementary schools.

In the organization of these fairs one great danger must be guarded against: they must be kept strictly educational, and no side shows or other questionable attractions must be allowed to creep in. The condition of many county fairs at present in all parts of America shows that this warning is not unnecessary.

YOUNG PEOPLE'S INSTITUTES

Farmers' institutes were established for the adult farmer, and they are meeting the expectations to a considerable degree. It is now evident that something must be done for the large number of boys and girls who leave school at the age of fourteen, who do not attend a high school, and who are too young to join the ordinary farmers' institute. In order, therefore, that opportunity to become acquainted with agricultural operations may be given to such young persons, from whose ranks the future farmers and farmers' wives must be drawn, there have been organized in several states "Farmers' Institutes for Young People." Owing to the fact that the majority of the boys and girls of the class under discussion are engaged, in whole or in part, in earning their own livelihood, it has been found necessary to omit much of what has been looked upon as strictly educational, and to devote attention to direct vocational instruction. The primary object is the building up of a better agriculture by training young people in the best methods of increasing crops, restoring worn-out soils, and disposing of the products of the farm in a profitable way. The real aim is to teach both how to make money in agriculture and how to spend this money wisely. The instruction should become the connecting link between the class in agriculture and the contests in the elementary school, on the one hand, and a reformed farmers' institute on the other. Institutes of this kind should be looked upon as a step in the evolution of a system of agricultural education that will secure the effective training, to at least the age of eighteen years, of those who voluntarily choose the occupations of agriculture and home-making as their life work.

This need of education along agricultural lines for young persons from fourteen to eighteen years of age is not yet fully appreciated. But any one who has observed the interest aroused by the clubs must have come to the conclusion that the young people of the country are now ready to receive more formal and definite instruction in agriculture and home economics, if means are provided that are adapted to their age, attainments, and requirements.

The vocational training of the country youth has not received the attention that has been given to the youth in the towns who is looking toward a mechanical pursuit. The proposal to compel the employer of labor to allow young people from the factory to attend school for a certain number of hours each week has been made many times; but, so far as is known, no public man has had the temerity to propose that the farmer should be compelled to allow his young employée to do the same thing. This will be done some day, however, when we are prepared to give up some of the boasted independence of democracy.

It is essential that these young people's institutes should be under the direction of some competent authority. Taking all things into consideration, probably the best head to the organization would be the county superintendent of education. This official would be able to work through the elementary teachers, and would be most closely in touch with the boys and girls leaving school. Success will more likely be achieved if there is no gap between the boy's leaving school and the joining of such an association. The teachers know the pupils, and they should lay the advantages of such an association before them. An advisory committee might well be formed, consisting of the county superintendent, the lecturer of the county grange, the president of the farmers' institute, and the teacher of the school. After the organization is completed, the official in charge should act in an advisory capacity. He should neither dictate nor control, but should always be accessible for the purpose of giving encouragement, advice, and assistance. One of the advantages to be obtained through such bodies is practice in the management and control of public affairs, and this cannot be secured unless the management is in the hands of the members themselves.

Objects of institutes for young people. — The objects of these institutes may be enumerated as follows: —

1. To give practical knowledge of the best agricultural methods, special attention being given to the types of agriculture prevalent in the district.

2. To prepare exhibits for annual contests or exhibitions, showing the practical application of the teaching given at the meetings of the institute.

3. To acquire training by the preparation of addresses on country-life subjects. In order to give sufficient practice in this respect, not more than one or two outside speakers should be allowed at any meeting. The main part of all programs should be composed of local talent, the boys and girls themselves being required to give the results of their readings and observations on assigned subjects.

4. To gain a knowledge of the most economical methods of doing business. This, of course, will necessitate the study of a proper system of bookkeeping, to which little attention has yet been given by the farmer.

5. To acquire a knowledge of parliamentary usage and practice in conducting public business.

6. To instill into the minds of the boys the part they have to play in the making of a home, and to show them why a comfortable home is essential to the success of agriculture; that the farm home should be supplied with all modern conveniences and appliances, as the farm needs to be supplied with up-to-date machinery.

7. To indicate the sources of agricultural literature, and to direct attention to the most authoritative information on all forms of agricultural enterprise. Every institute should have its library, consisting of books and periodicals, properly classified and arranged for circulation and reference.

Officers and their duties. — Institutes for young people should be managed by the officers ordinarily elected to control organizations. The constitution should specify the officers required and the duties of each. The constitution of an Indiana boys' club provides for the following officers: president, vice-president, recording secretary, corresponding secretary, treasurer, critic, and doorkeeper. The duties of the first four of these are such as usually pertain to these offices. The critic is supposed to call attention to mistakes in language, and to look up disputed points in grammar, choice of words, pronunciation, and parliamentary usage. The doorkeeper is expected to see that the place of meeting is kept comfortable, tidy, and properly heated and ventilated, and to look after the comfort of the members and any invited guests. To these officers a librarian might be added.

Boys' encampments. — In some cases, farmers' institutes or colleges of agriculture have established boys' encampments. These continue for one or two weeks, and the members live and study together during the period. Lectures, demonstrations, judging contests, and other means of instruction form part of the work; and at the close of the period, prizes are awarded for winners in stock, grain, and other judging contests, and for proficiency in agricultural subjects, as determined by a final examination on the work done during the encampment. One of the most interesting of these encampments is that known as the "Grout Farm Encampment." It is held annually on Mr. Grout's farm, for all of the boys of Scott County, Illinois, who care to attend. Lodging is provided in large tents, and meals and instruction are furnished free. The camp continues for a week, and is attended every year by fifty to a hundred boys.

Separate institutes for girls. — So far the institutes that have been formed have been composed very largely of boys, although many of them have a strong list of girl members. For a time at least, the junior institutes will probably be union meetings, with special sessions for each sex, as required. While joint meetings will always be necessary and desirable, the time will probably come, if it is not already here, when separate institutes for boys and for girls will have to be formed. It is essential that the knowledge of the girl be extended in many directions peculiar to her work and needs. Physical and moral welfare are at the basis of a happy life, and in maintaining them the woman has a very large part. The purposes of institutes for girls may be stated as follows: —

1. To inculcate an appreciation of the necessity for a sound mind in a healthy body.

2. To teach the laws of health and sanitation as applied to the person and to the home.

3. To teach the composition of foods and the best methods of combining and preparing them in order to meet the requirements of the body and to insure its highest efficiency.

4. To teach the principles of house-planning and architecture, with special attention to the kitchen as a working laboratory.

5. To encourage the introduction of modern labor-saving appliances into the home in order that time may be saved for social enjoyment and personal culture.

6. To teach the fundamental principles of home-nursing and what to do in emergency cases until a doctor can be secured.

7. To point out the principles to be followed in the proper care and rearing of children.

8. In general, the instruction of the girl in all things that relate to the management of the household, to the end that health may be preserved and the comfort of the home assured, without such an expenditure of time and strength as prohibits participation in art, music, reading, and social enjoyment.

Teachers of institutes for young people. — In conducting institutes for boys and girls of the adolescent age, the greatest care needs to be exercised in the choice of teachers. The word "teachers" is used instead of "lecturers," as the methods of the teacher should be employed. The old-time farmers' institute lecturer will not do for this work. First of all, the teacher must be thoroughly acquainted with the subject on which he is to speak; but beyond this, he must know how to teach and how to present his subject in the most attractive manner. No statement should be made to boys and girls that is not capable of proof, and whenever possible the principles should be demonstrated by experiment. The manner of the teacher must be such as will inspire the confidence of the young folks and encourage them to ask questions and to take part in the institute.

If this movement be properly organized and conducted, it has great possibilities in the vocational education of that part of the rural population which at present receives no instruction beyond that given in the elementary school. It is quite probable that greater good will be accomplished by teaching agriculture and the larger ideals of country life to these young people than in teaching the same things to adult men and women, the greater part of whose work lies in the past.

SHORT COURSES IN AGRICULTURE

Another method of instruction that has been adopted with some success is that of short intensive courses at the high school or agricultural college. The proper development of regular courses in agricultural high schools will probably take care of the needs of all the boys and girls who are able to continue their formal education beyond the elementary school. The practice followed in some high schools, of holding courses lasting from two to six months and allowing the remainder of the year to be spent on the farm, will make it possible for many more to attend than if the courses were continued for ten or twelve months.

But when the agricultural high schools have done their best to encourage attendance at their regular courses, there still will be a large majority of the rural population that will not be reached. For these, the short courses above referred to may be successfully offered. They should be held at a time when the boy is least required on the farm and the girl in the home. A great deal can be accomplished in the course of three months devoted to a special subject, where the course is organized in such a way as to cut out all extraneous matter and the instruction is concentrated on fundamentals.

RURAL EVENING SCHOOLS

The only form of continued education that is open to a large number of boys and girls who are compelled by economic necessity to work throughout the day, is some type of evening school. It may be admitted that education in evening schools has serious defects, but in the present state of society it is necessary and renders a service that is performed by no other agency. The large number of illiterates existing in country districts is due in part to failure to establish and enforce compulsory education. The fact that illiterates, by the exercise of the franchise, have as great a power in the State as those who are educated, is a serious menace to good government. In some close constituencies, the illiterate voters control the situation. The dead weight of illiteracy, wherever found, must be removed from agriculture if it is ever to rise to the dignity of other industries.

Two purposes are served by evening schools: they provide for the continuance of the elementary education of children and of adults who have left the day school at an early age, and they furnish industrial or vocational training calculated to make effective workers. As a matter of fact, these two purposes are one, for unless the first is satisfactorily performed it is useless to hope to accomplish the second.

For the first-mentioned purpose a night school is needed in nearly every village; for if it is desirable for the day school to be near the homes of the children, it is even more so for the school for boys and girls who attend after their day's work is over. In the older countries of the world, farmers as a rule live in villages, and not on isolated homesteads as on the North American continent.

> There is a lesson in these matters for Canada and the United States. The policy of village settlements rather than isolated homesteads is well worth consideration and recommendation for the unsettled districts; and even where surveys have been made, the question need not be looked upon as finally settled. Contented women, good chances for the education of the children, and a reasonably richly developed social life, are in the long run of immensely more consequence than conveniences for growing crops. The place of the latter is to minister to the former. What shall it profit a country to be called the 'granary of the empire,' if it loses the soul of happy rural life.[1]

The elementary education given in the evening schools should be similar, to some extent, to that given in the day school, and rural environment should be its keynote.

The Moonlight schools. — Within recent years a serious attempt has been made to deal with rural illiteracy. In Rowan, a mountainous and former feud county of the State of Kentucky, once famous only for "the raising of rackets and Christmas trees," night schools were adopted as a rural institution in 1911. An account of this movement is given in a recent bulletin of the United States Bureau of Education,[2] from which the following particulars are taken.

The enterprise was due to Mrs. Cora Wilson Stewart,

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[1] Report of the Royal Commission on Industrial and Technical Education. Ottawa.

[2] Illiteracy in the United States, and an Experiment for its Elimination. U.S. Bureau of Education. Bulletin No. 20. 1913.

NIGHT SCHOOL'S AID TO ELIMINATE ILLITERACY

superintendent of schools in the county. After a careful study of the situation, she decided to open the public schools of the county on moonlight nights as schools for adults. As there was no money available, she called for volunteers and her appeal was responded to by all the teachers in the county. On Labor day, September 4, the teachers visited all the homes in the county, explained the plan, and announced the opening of the schools on the next evening. To the great surprise of everyone concerned, more than 1200 men and women from eighteen to eighty-six years of age were enrolled the first evening. The attendance was drawn from all classes, and about one third of the population of the county was enrolled.

In referring to the difficulties of attendance, Mrs. Stewart says: —

> They had all the excuses which any ignorant and laboring people might offer, — high hills, bridgeless streams, rugged roads, weariness from the day's hard toil, the shame of beginning study late in life, and all the others, — but they were not seeking excuses. They were sincerely and earnestly seeking knowledge. Their interest, their zeal, and their enthusiasm were wonderful to witness. It was truly an inspiring sight to see these aged pupils bending over the desks which their children and grandchildren had occupied during the day. Their delight in learning, and their delight in their achievements, exceeded any joy that I have ever witnessed.

The forty-five schools had an average enrollment of almost thirty pupils, with an average attendance of about the same. The studies taken up were reading, writing, arithmetic, and spelling. Brief drills were given in essential facts relating to language, history, geography, civics, sanitation, agriculture, and horticulture. The text used for reading was the "Rowan County School Messenger," edited by the county superintendent and distributed free. It was given a strong local cast and dealt entirely with problems relating to rural life. The results have shown that a few weeks of attendance have been sufficient to enable the adult pupil "to pass over the dark line of illiteracy and to get into the class of literates."

During the second term, 1600 pupils were enrolled. Of these, 300 were unable to read and write at all; 300 more were those who had attended during the previous session; and 1000 were men and women of meagre education. The schools were conducted two hours each evening on four evenings during the week, and the teachers were, as a rule, the regular day-school teachers. Before the opening of the second session a moonlight-school-teachers' institute was held, and through this the movement spread to eight or ten other counties.

One of the most important results of the schools has been the influence which they have exerted in bringing the people to a sympathetic attitude toward education in general. A school trustee thus describes the effect the schools have had in his community: —

> I have lived in this district for fifty-five years, and I never saw any such interest as we have here now. The school used to just drag along, and nobody seemed interested. We never had a gathering at the school, and nobody thought of visiting the school. We had night school only three weeks, when we got together right. We papered the house, put in new windows, purchased new stove-pipe, and contributed money and bought the winter's fuel. Now we have a live Sunday school, prayer meeting once each week, and preaching twice a month. People of all denominations in the district meet and worship together, aged people come regularly, and even people from the adjoining county are beginning to come to our little red school house.

What shall be taught in evening schools. — In the open country and in scattered districts it may not be possible to develop evening schools for strictly vocational purposes; but there are many villages and small towns situated in the midst of agricultural districts, where they are an urgent necessity. In such schools, subjects that are vital to agriculture should be taught, and elementary subjects such as reading, writing, and spelling, will have only an incidental place. Consolidated schools have a function to perform here which has not yet entered into their calculations. From the staffs of these schools and in the surrounding villages it should not be difficult to find teachers of woodwork, domestic science, poultry-keeping, land-measurement, and general agricultural subjects. As the aim would be to produce effective workers, the courses should be systematized and should continue for a period of at least three years.

In rural evening schools it is not generally possible to provide elementary and advanced education at the same time. The idea of an elementary course one year and an advanced course the following year is also impracticable. The curriculum must be such that the pupil can enter in any year. Under these circumstances, what has been called the "cyclic" principle must be adopted. For example, a three-years' course in practical arithmetic might be arranged, in which the second-year work is not more difficult than the first, or the third than the second, a different branch of the subject being taken each year, so that the pupil can begin the course with equal advantage in any year, and end it the third year after. In other subjects, also, there is no difficulty in arranging cyclic three-year courses.

In such subjects as gardening, woodwork, needlework, and domestic science, where elementary and advanced pupils can work together, there is no reason why the classes should not be graded. In arranging the work for any particular school it is necessary to know what practical subjects are needed in the district, and then to coördinate with these the fundamental subjects which embody the principles underlying the practice; then there should be added such general and recreative subjects as will widen the outlook of the pupil and augment the intellectual value of the whole curriculum.

The following is an example of a course that might be arranged for a school meeting twice a week during the winter for two hours each evening: on one evening arithmetic and drawing might be taught; on the other, woodwork and choral music. On four of the evenings during the winter the regular work might be interrupted by a course on seed-judging and testing, given by the agricultural teacher from the nearest high school. When the evenings are light enough, the indoor work might give place to land-measurement and surveying out-of-doors, or to practical gardening. A second winter the fundamental subjects taught might be arithmetic, rural science, secondary subjects, rural handicraft, and literature.

Where it is not advisable for girls to attend in the evenings, it might be possible to hold a household-science class for them in the afternoon, in which case household arithmetic should be included as part of the regular curriculum. Their regular work might be interrupted by a course of four lessons on poultry-keeping, or a course of dairying by a peripatetic teacher. The agricultural colleges and schools can perform a great service here by providing the necessary instructors.

Much progress has been made in agricultural education and many organizations exist to further it. Until within recent years, the efforts have been concerned largely with the agricultural college. Later came the development of the agricultural courses in the high schools and the special agricultural schools, and more recently the movement for the teaching of agriculture in the elementary school. These provisions, however, leave out of consideration the boy and the girl who leave the district school at fourteen years of age or younger, and who will discontinue study entirely unless special provision is made for their peculiar needs. These persons should receive assistance through some such means as above outlined, until public opinion is ripe for compulsory education up to the age of eighteen years.

CHAPTER VIII

SECONDARY EDUCATION IN AGRICULTURE

It is now universally admitted that no scheme of education is complete without an efficient system of high schools in which the education begun in the primary schools may be continued. If this be true of the ordinary academic work, it is even more so of agricultural education. A few years ago the rural high school was simply a city high school set down in the country, and it struggled to realize educational ideals that had little in common with rural life. It was long thought that special education for the farmer was unnecessary. Owing to changed conditions, however, to the gradual adoption of more scientific methods of farming, the necessity for increasing production to keep pace with an ever-growing population, and the competition to which the farmer is subjected, its necessity is becoming more clearly seen.

Many opponents of high-school education are willing to admit that higher education may make the boy a better man, but they contend that it will not in any way enable him to farm more profitably. Nevertheless, higher education has a direct monetary value when applied to industry, including agriculture. This is shown by investigations of the New York State College of Agriculture at Cornell University.

MONETARY VALUE OF EDUCATION IN AGRICULTURE[1]

The investigations were conducted in certain townships in the State of New York. The labor incomes of all the farmers in the selected townships were secured, the labor income being the amount each farmer received for his labor after meeting all expenses, including five per cent interest on his investment. By subtracting the business expenses from the receipts, and by making corrections for any changes in inventory, what is called the farm income was secured. As the farmer is an employer as well as an employee, he uses a certain amount of capital; and in order to see what the farm really made, five per cent interest on this capital was deducted. In these investigations, if more than one member of the family worked, the value of this additional unpaid labor was deducted. The amount the farmer made, as a result of his own labor, was thus obtained. The principal purpose of the investigation was to study the effects of methods of farming, capital, area, equipment, and other factors, on profits. In securing data for this purpose, the farmer was asked to state the highest school he had attended. A compilation of the results in four townships shows that 622 attended district schools only, 223 attended high schools, and 14 attended colleges or universities. Figures on which it was possible to obtain the labor income were obtained from 573 of these men. The 398 who had attended district schools only made an average labor income of $318; 165 who had attended high school made $622; and 10 who had attended a college or university made an average labor income of $847.

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[1] National Education Association. *Annual Proceedings,* 1910.

The above figures are not final, as it is quite possible that the high-school men had better farming opportunities. In order to eliminate this possibility, the farms were arranged in equal capital groups and the results appear as follows: —

Capital	*Average labor income of farmers with district school education*	*Average labor income of farmers with more than district school education*
$2000 and under	$187	$286
$2001 to $4000	$241	$275
$4001 to $6000	$398	$466
$6001 to $8000	$395	$709
$8001 to $10,000	$618	$796
$10,001 to $15,000	$525	$1091
Over $15,000	$1054	$1276

It will thus be seen that in every group of farms the men with the better education were able to use their capital more efficiently. The figures show that the men who attended high school made a labor income of $304 a year greater than those who attended district school only. A high-school education, to these men, is thus proved to be worth more than an endowment of $6000 in five per cent bonds. It may be argued that the men who attended high school had more native ability and intelligence to start with than those who attended the district school only; but the investigators declare that these differences are not great.

The high schools which the majority of these men attended were the usual academic institutions. If the education there given could so improve their earning capacity, it seems quite fair to assume that had their education been along agricultural lines the results would have been still greater.

THE TYPE OF HIGH SCHOOL TO BE DEVELOPED

Admitting, then, that secondary education in agriculture is necessary, the question now is, what form shall it take. This subject has given rise to much discussion. One side contends that the present high schools can be fully adapted for the purpose required, and that it is neither necessary nor desirable to establish special schools. The other side argues, just as strongly, that the work can never be satisfactorily done in the present type of high school, and the special agricultural schools are needed for this purpose.

ADVANTAGES OF EXISTING HIGH SCHOOLS

The advocates of the existing high schools contend that the wiser course would be to correlate agricultural instruction with the work that is now being done, and make it an integral part of the educational system now in vogue. If this can be done, there is saved all that is best in the old and advantage taken of what is desirable in the new.

The arguments against the special agricultural school appear to be as follows: —

1. It has taken centuries to establish the schools we now have. With a little readjustment they will be able to do the work required for agriculture. To establish new schools and refuse to utilize the old, would be to throw away the experience that has been gained and cause a needless waste of public funds.

2. Separate schools will never be so good. No school designed to minister to a single class of people and to a single industry will be so well equipped in the fundamental arts and sciences as one designed to minister broadly to a variety of interests. What it gains in simplicity and efficiency in doing one thing is more than offset by the loss in breadth and variety of training and in the satisfaction of the diversity of needs.

3. Separate schools will tend strongly to peasantize the farmer. To separate any one class of people from the common mass, and to educate it by itself and solely for one purpose, is to make it narrower and more bigoted generation by generation.

4. To educate the children of different classes separately operates to prevent that natural flow of individuals from one class to another which is so much to be desired, both from the social and from the individual standpoint. If the children of farmers are put into schools where agriculture only is taught, many a good business or professional man will be spoiled to make an indifferent farmer. Boys do not necessarily inherit or develop a tendency towards their father's profession. There is a difference between educating through environment and educating without environment. Many a city boy has the instinct to get back to nature. The fact that a girl was born in the country is no reason why she should become a farmer's wife, nor is the

fact that she was born in the city a reason why she should not. Educate all the pupils together in one type of school, with a curriculum varied enough to fit for more than one occupation and more than one mode of life, and a man will then be free to follow the occupation of his father, or to change, as he pleases.

5. Secondary schools devoted to agriculture would, of necessity, draw on so much territory as to require the student to live away from home. The problem of secondary education is very largely the problem of the fourteen-year-old child, and we should never be satisfied till every farm-boy and girl may go to the nearest high school and there find instruction, not only in agriculture, but in the other industries and professions which concern the community.

6. Agriculture not only needs contact with other industries, but those industries need contact with agriculture; and this mutual contact gives a much broader outlook to all the industries.

7. To establish agricultural high schools would materially hinder the development of the existing high schools, and would check their extension into rural districts where they are urgently needed.

These are the main arguments put forward by Dean Davenport; and while for the moment not advocating the establishment of separate agricultural schools, it would seem that they are based largely on the assumption that agricultural high schools would content themselves with a curriculum narrowed down to the bare teaching of agriculture and would ignore the related sciences, art, and literature.

ADVANTAGES OF SEPARATE AGRICULTURAL HIGH SCHOOLS

The above arguments have not met with universal acceptance. The fourth annual report of the Carnegie Foundation for the Advancement of Teaching, dealing with secondary schools, says: —

The insertion of agriculture into the curriculum of every secondary school in the country would not make any difference in their output of farmers. These schools are not trade schools. They are intended, and they should remain, schools for the general training of boys and girls for all callings. Agriculture, put into one of these schools as a study, will remain, as it ought to remain, a study for general training and not a means of trade instruction. We have had in the last twenty years a most striking example of what will happen in such a case. Twenty-five years ago, when manual training was introduced into the secondary schools, it was the expectation of many that this would lead to a large group of well-trained mechanics. It has had no such result. Manual training has remained a fruitful study, but its purpose has been purely pedagogic.

The advocates of the special agricultural high schools do not believe that the course of study need be whittled down to the extent that they shall be less cultural or less truly educational than the existing high-school courses. It is believed that better courses than are usually offered in schools attended by pupils from rural districts can be worked out for these special schools, courses which contain all that is essential in the old and, in addition, provide for training along distinctly agricultural lines.

A large part of the country youth who now attend high schools not only go away from home, but are not under faculty control outside of school hours. Many of them go on the train and return at night. Many stay for the week and return home on Friday for the week-end. Any one who is in the habit of traveling on local trains carrying high-school pupils to and from school is not, as a rule, favorably impressed with their behavior.

If it were proposed to establish special schools to which the farmer would be forced to send his children, they might, perhaps, tend to peasantize the farmer; but this is not the case. Where special schools have been established, the farm boy is still able to make his choice between them and the ordinary high school, just as in the cities the boy is able to choose between the three types of school generally established. The special agricultural school simply offers the country boy, who has already decided that he will be a farmer, and who is entitled to preparation therefor, a better opportunity to prepare for his profession than the public high school offers.

The arguments for, and the purposes of, the special schools may be summarized as follows: —

1. To stimulate the general introduction of agriculture into the ordinary high school, and in a general way to set the pace for and give permanence to secondary education in agriculture.

2. To aid in the preparation of rural school-teachers. This is accomplished in a definite way in Wisconsin and other states by connecting teachers' training classes with the county schools of agriculture.

3. To serve as links in the chain of separate institutions seeking to train boys for farm life. The course of study should include instruction in English, mathematics, chemistry, and botany.

4. To serve as schools to which boys, who have chosen to become farmers, may elect to go for more thorough and efficient preparation for their life-work than the ordinary high school can give.

5. To relieve the agricultural colleges of much of the secondary and short-course work that has now to be done by them.

6. To serve the local farming community more intimately than the agricultural college can.

7. Such schools should be limited in number and should serve large areas, depending on the density of the population.

8. The curricula should be varied according to the predominant industry. The schools should be kept strictly secondary in grade, avoiding on the one hand the work of the elementary school, and on the other that of the agricultural college.

BOTH TYPES OF SCHOOLS ARE NEEDED

The arguments of both sides having been fairly stated, we now have to consider which should prevail. As is to be expected, there is merit in the arguments of both contestants, and the solution of the difficulty seems to lie along a middle path. Enlarge the work of the present high schools to teach agricultural subjects, and establish special agricultural schools to cover large areas, where agriculture and domestic science may be taught, together with such academic subjects as are necessary. The field of agricultural education is so large, the subjects to be covered so numerous, the need for it so great, and the roads by which we may reach the same goal so many, that there is surely room for schools of the two types. Those who have the real interests of the farming population at heart, and who are anxious that agricultural education shall become effective, must settle their differences, sink their prejudices, and work harmoniously together to bring about the desired results.

There are scores of examples which could be cited to prove that agricultural education can be effectively incorporated in the existing high schools. It is quite practicable, because it has been widely done, to articulate an agricultural course of high-school grade with the present high-school schedule, and to make this course satisfactory for the purposes of general training as well as for efficient instruction in the theory and practice of agriculture.

It is well to admit, at the outset, that this work cannot be done in the rural high school as at present organized; but on every hand comes the demand that these schools shall be reorganized. Before agriculture can be effectively introduced into any high school, revolutionary changes in spirit and purpose will be necessary. The first need is a change of aim. The schools must face the actual needs of life as found on the farm and in the home. They must not lose sight of college preparation, but neither must they make that the special aim of their existence. This implies by no means that all instruction shall be what at present is known as vocational, — the physical, cultural, and social needs are facts of life and cannot be ignored; but it does mean that the educational value of every subject on the program must be assessed, that every detail of organization and method must be systematized, and that we must conduct our schools in such a way as will secure the maximum of useful knowledge, skill, and power, and the cultivation of the highest character.

The high schools in small towns in rural districts need agriculture to save them, probably as much as farm boys need the instruction. As at present organized, secondary education has helped the boy out of farming rather than helped him into it. The school should constantly put back into the community as permanent residents the best of each generation, if it is to justify its own existence and the taxation imposed for its maintenance. In many instances, rural secondary schools have been a source of weakness rather than of strength to the communities supporting them. They have been the direct means of taking out of the country the manhood and womanhood so necessary to the welfare and progress of the countryside.

READJUSTMENT OF THE COURSE OF STUDY

With the introduction of agriculture into the high school, all the courses will need readjustment, particularly those in physics, chemistry, botany, and zoölogy. These should be so shaped as to form an appropriate introduction to the more formal and practical instruction in the different branches of agriculture. Whether this science shall be taught by the teacher of science or by the teacher of agriculture, has caused some controversy. If the agricultural teacher in the high school has been properly trained and is fully qualified for the work, it will be easy for him to take a scientific view of the practical work to be done.

It is becoming more and more evident that science in its pure form cannot be taught very successfully to secondary students. Children of the adolescent stage of development apparently respond much more satisfactorily to that scientific teaching which begins with applications and concrete cases, and then merges into generalizations, principles, and laws. This is the historic order in the evolution of scientific knowledge, and it is not improbable that in the main it is the true pedagogic order also.

The question of textbooks. — One of the most serious obstacles in the way of bringing the rural secondary school into close touch with the needs of rural life is the present organization of textbooks. A textbook in physics, written to enable the pupils to pass the examination of a scientific school, is often adopted for use in rural districts, and the problems are usually innocent of any connection with local requirements. The principles underlying the subject of physics are universal, yet they can be given a local coloring and made effective through problems relating to the farm. Biology, as usually treated in the texts, consists of nothing more than a classification and description of the various forms of animal and plant life. A treatment of the subject is needed which shows the application of its principles to the farm.

The principles of botany should find application in the care, selection, and cultivation of plants with regard to their economic value. Zoölogy should be made manifest through the study of the forms of animal life that are helpful or injurious to the farmer. A text book in chemistry for rural high schools ought to be prepared to show the applications of chemistry to various phases of agriculture. The problems of mechanics find their exemplification in farm buildings and farm machinery, and these should be used largely for purposes of illustration and demonstration.

In most rural high schools the commercial course is a popular one, and thousands of rural-school pupils are taking this course and dealing with problems that may have little concern with rural life. Many of these students are intimately connected with farm affairs and could greatly assist in systematizing the farm accounts if their attention were so directed. Of course, the principles of bookkeeping are applicable to any business, but the bookkeeping that is taught in the rural high school should be closely related to the chief business of the community.

THE MODIFIED COURSE OF STUDY

The committee of the National Education Association on Industrial Education for Rural Communities recommended that, "in the township or other distinctively rural high school, and in the village high school attended by a considerable number of pupils from the country, a modification of courses of study should be made which shall provide for the introduction of work especially in the elements of agriculture and domestic science and such further lines of industrial education as local conditions may make feasible." Throughout the country there are a large number of high schools to which this modification could be applied beneficially. It is highly gratifying to note that courses of study in many places are being modified along the lines suggested. In the towns and cities industrial training is being given a prominent place, and in the country agriculture is coming to its own.

Until within recent years the avowed purpose of the high school was to prepare for college, and there is a decided danger that these new courses may be made preparatory courses for admission to the agricultural college . If this be done, they will be repeating the blunder of the academic high schools and failing to accomplish the object intended. The purpose of these courses may be said to be the provision of a broad general training which will enable the boy and the girl to proceed directly from the school and take an active part in the industries of the community. The secondary course should be complete in itself and not a mere stepping stone to higher education. This does not mean that the work of these schools shall not be articulated with the work of the colleges, but it does mean that they shall direct their work primarily to the active needs of the districts in which the schools are situated, and be prepared to render immediate community service.

THE REORGANIZATION OF THE EXISTING HIGH SCHOOL

TWO EXAMPLES

In order to show that the problem of reorganizing the existing high school is within the sphere of practicality, it will be pertinent to consider a typical instance of such a reorganization, in Colebrook Academy. A recent bulletin of the United States Bureau of Education gives an account of the methods employed, and from that account the following particulars have been adapted.[1]

Colebrook Academy. — Colebrook Academy is situated in the town of Colebrook, in the extreme northern part of New Hampshire. The population of the town is about 2000. In 1832, when the school was established, it received a grant of land from the State. For a time it was conducted as a private institution; but it had no endowment and it soon became a school entirely supported by public taxes. It retained its original name but became a public high school of the usual academic type.

The school district comprises only part of the town, and has a population of about 1200. Until 1910, the school maintained the traditional college-preparatory English courses. In that year it was decided to reorganize on a new basis, with a view to provide a more useful education for the country boys and girls. A new building was erected

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[1] The Readjustment of a Rural High School to the Needs of the Community. United States Bureau of Education. Bulletin 20. 1912.

COLEBROOK ACADEMY

and a new program of studies laid out along modern lines, consisting of college-preparatory, commercial, agricultural, and domestic arts courses of study.

The purpose of the new program is expressed by State Superintendent Morrison in these words: —

> It ought to be borne in mind that the legitimate purpose of such high-school courses as this is not primarily to make good farmers, skilled mechanics, or professional housekeepers. Their primary legitimate object is the education of the boy and the girl to become sincere, happy, and efficient men and women, capable of becoming educated workers with material things, capable of getting life's happiness out of work rather than out of the leisure which comes after work, if indeed it comes at all. A further legitimate purpose is to educate the strongest youth towards the farm and the industries, instead of towards business and professions exclusively. For these ends the courses utilize agriculture and the mechanic and domestic arts purely as educational material, absolutely on a par with Greek, Latin, and mathematics. To become thoroughly efficient, the youth must still receive the training of special technical instruction or of experience. But the pupil who has had four years of the kind of instruction recommended, will be not only a better educated man, but a more intelligent farmer, mechanic, or housekeeper.

The courses are designed to overcome the prevailing tendency to think of agriculture and home-making as unworthy callings. Agriculture must be raised to as dignified a position as medicine, law, or engineering. Home-making must be looked upon as a profession by the girl who goes out from the secondary school. The schools will never become efficient in the highest degree until the basic arts upon which the future welfare of state and nation depends are given their proper place side by side with the traditional subjects. Raise the condition of the farmer and his occupation in the minds of the people, make farming as great an avenue to distinction as politics, and give as much consideration to the man who does things as is now given to the man who talks about them, and then we shall not have to complain of the condition of agriculture.

The school premises consist of two buildings and a greenhouse. The old building was remodeled and repaired. The main floor is used for a gymnasium and the basement for shops. The first floor of the new building contains laboratory, commercial room, typewriter room, library (6000 volumes), superintendent's office, principal's office, bookroom, and lady teachers' room. The second floor contains a large study-room, seating one hundred and fifty, and four class-rooms, each capable of accommodating thirty-six pupils. The cost of the new building, including the greenhouse, was $30,000.

The greenhouse is on the south side of the building and connected with it by a continuous passage-way. It is heated by a special hot-water heater in the basement of the main building. Benches covered with soil to a depth of six inches are placed around the walls on four sides and one down the center. They are used for experiments in growing plants. The cost of the greenhouse was $500, and of the heating apparatus $250. There is also a dairy laboratory in the basement of the main building.

The domestic arts course is four years in length, and its equipment consists of kitchen and dining-room, and utensils and furniture for cooking and serving, such as would be found in the house of a family of moderate means.

Two shops are provided, a forge-shop for general forging and farm-blacksmithing, and a wood shop. The main purpose of these shops is stated to be, "to enable a boy to acquire so much of the art of the carpenter and the blacksmith as to enable him to understand the structure of farm buildings and machines, and to make sundry repairs to the same."

The staff consists of six teachers, including the principal. The principal and two of the teachers are graduates of the ordinary collegiate and literary courses. The teacher of agriculture holds a degree from the Massachusetts Agricultural College. The domestic arts teacher graduated from the home economics department of Simmons College. The commercial teacher is a graduate of the commercial course of Salem Normal School. Thus it will be seen that the teachers of the industrial subjects are of the same academic rank as the teachers of the ordinary subjects, and this equality plays its part in determining the estimation in which these industrial subjects are held by the pupils.

The school is administered by a school board of six members, elected by the people. The superintendent is the executive officer of the board, and in his hands is placed the superintendence, direction, and management of the school. Under the charge of the superintendent there are, in addition, the graded schools of the village, twelve ungraded schools in the farming sections outside, and the schools of Errol, a neighboring town. These two towns unite to form what is called in New Hampshire a supervisory district, and they employ conjointly a superintendent of schools. The State pays one half the salary of the superintendent. The office is divorced entirely from politics.

The Farragut school.[1] — Another striking example of reorganization on a somewhat simpler plan is the Farragut school, near Concord, Tennessee. Six years ago the building was destroyed by fire, but it was immediately rebuilt by the people at a cost of about $12,000. A complete water-system was installed, costing a little less than $3000, making the initial cost of the property, with twelve acres of land, about $17,000. The school stands in the open country about one and a half miles from Concord, a village of approximately 300 people. The building is a two-story brick structure, with basement. The high school occupies the second floor. The first floor is occupied by the elementary school. One half the basement contains the home-economics room, the lunch-room, and toilet-rooms for girls.

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[1] The Farragut School, a Tennessee Country-life High School. United States Bureau of Education. Bulletin 49. 1913.

Six acres of ground are used for buildings, playgrounds, and the like. The remaining six acres are used for demonstration purposes. Three four-year courses of study are offered — Latin, English, agriculture, manual training for the boys, and home economics for the girls. The attendance has almost trebled during the last four years, largely as a result of the practical work offered in the course of study and the change in the attitude of the local farmers towards agricultural education.

The above two excellent examples offer suggestions as to the methods by which the average country high school can be reorganized for the purpose of giving efficient agricultural education to such boys and girls as are able to avail themselves of the opportunities provided.

THE ORGANIZATION OF THE SPECIALIZED AGRICULTURAL HIGH SCHOOL

The special type of agricultural school is an accomplished fact in many states, and it is performing a function that has not hitherto been performed by any other institution.

In the study of these special schools, the first point to be considered is the question of their management and control. On this continent, we have almost a mania for forming new organizations, but it is to be hoped that the establishment of special schools will not necessitate another governing body, and that the unity of the educational system will be maintained.

County agricultural high schools. — The type of school that seems to be highest in popular favor to-day is that known as the county agricultural high school. Such schools were first established in Wisconsin in 1902, and the Wisconsin plan may perhaps be taken as typical. These schools, strictly speaking, are agricultural trade schools. The term "trade school" is here used in the best and most modern sense. In the past the term was supposed to indicate a type of school that gave the narrowest kind of instruction. But the modern trade school does not neglect the cultural and æsthetic side of life,which is increasingly important if trade subjects are to be well taught.

These county schools are designed to educate the farm boy and girl who is not able or does not wish to take an extensive collegiate course, young persons who are desirous of obtaining that form of training which will be most useful to them when they take charge of the home farm or the farm home. The school is made the educational center of the community, and the farmers are free to call upon it for assistance in any line of work relating to the farm and its problems. The county is a taxable unit, and the schools draw their support from both county and State. In this way local pride and interest is maintained to a greater extent than when the schools are supported entirely by the State. The original law allowed the establishment of two schools in the state, but it was afterwards amended to allow ten.

The schools admit boys and girls on equal terms. The course of study covers a period of two years of eight months each. Two thirds of the cost of maintenance up to a maximum of $4000 is granted to each school by the State. The entrance requirements specify that students shall have completed work equal to the eighth grade. Students are admitted from any part of the state. The governing body consists of three members, who form the county school-board, two of them being elected by the county board of supervisors for a period of three years. The county superintendent of schools is ex-officio secretary of the school-board. The county board has control over all matters relating to the school, subject to the approval of the State Superintendent of Public Instruction and the Dean of the College of Agriculture. In this way the schools are kept within the limits of the state system of public education.

One of the main objections that has been urged against these schools is that they are too frankly vocational. It must be remembered that they are designed to reach the boy of fourteen years of age who has decided definitely to make farming his life-work; and that if he did not get this special training he would probably obtain no further education than the elementary school affords. In addition to the purely agricultural subjects, provision is made for English, arithmetic, music, drawing, and science.

In similar schools in Minnesota, one third of the time is devoted to general studies, one third to science related to agriculture, and one third to technical subjects relating to agriculture and home economics.

Congressional district high schools. — Many consider that the county is too small an area to provide for the proper equipment and maintenance of a thoroughgoing agricultural high school. The congressional district schools of Alabama and Georgia meet this objection. Alabama was the first State to establish an agricultural school in each congressional district. Each of these schools accommodates from two to nine counties, and there are now nine such schools. Each of them has a branch experiment station connected with it and receives $7500 annually from the State. Georgia has eleven such schools. They receive the proceeds of the state oil and fertilizer taxes, amounting to about $10,000 for each school. The buildings, land, and other equipment were provided by local contributions. Each school is provided with not less than 200 acres of land. The course of study extends over four years, and includes two years of primary-school work and two years of high-school work.

These schools are expressly designed to be vocational. The first step in the development of any business is to make it pay. We may rhapsodize about the glories of country life, the songs of birds, the beautiful sunshine, and the liberty of life in the open country, but no man, even if he has the capacity, can fully enjoy these unless he has brought his business to a paying basis. Under these circumstances it is perfectly reasonable, and, indeed, is necessary to the fulfilment of their proper function, that these schools should devote a great amount of attention to the financial aspect of their instruction. All school farms, except those that are reserved for purposes of demonstration and experiment, should be run on a strictly business basis.

An example of the specialized county high school.[1] — The work that can be done for the community by a county agricultural high school is well shown by the Agricultural High School of Baltimore County, Maryland. When this school had been in operation for only one year, it had carried on one type of work, at least, with each class of people in the neighborhood — farmers, farmers' wives, young people, rural school-teachers, and children in the elementary schools. As a result of this work the school is regarded by the people as one of the best institutions in the county.

The school is situated in the open country, apart from any town or village, but near a railway station. Four elementary schools, comprising ninety pupils, were consolidated into two classes which meet in the high-school building. In the first year the high-school department had fifty pupils. Those whose homes are not adjacent to the railway are brought by school wagons and private conveyances. The school has seven acres of ground, and the building has five class-rooms, two of which can be converted into an assembly hall seating 300 persons. In the basement there are a manual-training room, a domestic-science room, an agricultural laboratory, a farm-machinery room, and toilet-rooms. The school has its own lighting and water-supply systems. All the usual high-school subjects are taught except languages, agriculture, domestic science, and manual training being offered in place of them.

The first principal of the school was new to the community, and the first thing done was the compilation of a card-index of persons in the county, with all the information that could be obtained about each individual. Three thousand personal invitations were issued for the opening ceremonies. Posters describing what the school had to offer were distributed throughout the county. These were nailed up on trees, on crossroads, post offices, blacksmith shops, on schoolhouses, and on churches. The school adopted business methods in its advertising, and owing to the interest of all the county newspapers much free advertising was secured.

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[1] National Society for the Study of Education. *Tenth Year Book.*

In addition to the regular school work, the first organization was a series of monthly meetings for rural schoolteachers. These occupied the whole of Saturdays. The mornings were spent in lessons on general school methods, and the afternoons in agriculture. The teachers brought their own luncheon baskets, and hot coffee and tea were served by the girls in the domestic-science kitchen. Exercises such as could be repeated in the country schools without expensive apparatus were taken in the laboratories. Lessons on elementary agriculture were printed in the monthly issues of a local newspaper and sent free to every teacher in the county. Unfortunately these meetings were not wholly successful, owing mainly to difficulties of transportation.

A course of ten evening lectures for farmers was given on soils and fertilizers. Posters were displayed all over the county. An outline of each lecture was mimeographed and distributed, and the audience was asked each time to bring the outline of the preceding lecture for reference. The first lecture was attended by sixty persons, the second by ninety, the third by one hundred. The average for the entire course was 125, and this in an open farming country where practically every one had to drive in the dark over bad roads.

At the close of the lectures, a two days' corn congress was planned. Twelve speakers, the best that could be obtained from the United States Department of Agriculture and the Maryland Agricultural College, gave addresses at the series of six sessions, all directly on corn growing and cooking. Posters were printed in red on white paper (the school colors). Everybody was invited to exhibit ten ears of corn. People came and stayed through the two days, only going home to sleep. One hundred and eighty exhibitors sent in ten or more ears of corn, and almost one thousand persons attended the sessions.

Twenty rural schools had held small preliminary shows of their own, and sent the best exhibits to the congress. Meetings were held at the same time, in different parts of the building, for men, women, and children. Meals were served at a lunch-counter by the members of the women's club, and the proceeds were given to the school fund. Only ribbon prizes were given. Stores in the county were willing to contribute various articles for prizes, but owing to the belief of the school authorities in amateur rather than professional competitions, they were declined. At the close the prize exhibits were sold by auction, and thus good seed-corn was distributed throughout the county.

Monthly meetings for women were held on Saturday afternoons. Three hundred postcards were sent to those within driving distance. The three school wagons were run over the regular routes to bring them to the meeting. After a fifteen-minute address on some vital topic, and a little music, the women divided into four self-chosen groups which were continuous throughout the year. The first group took domestic science in the school kitchen. The second group took carpentry in the manual-training room, learning to do simple operations required in the home and on the farm. The third group took instruction in chair-caning, rug-weaving, basketry, and stenciling. The fourth group took up the study of modern literature. These meetings had an average attendance of eighty-five.

A literary society was formed for young persons who were too old to attend school. This meets once in two weeks and has a membership of one hundred. Spelling bees, debates, and other literary exercises are held. An interesting offshoot from this society is a reading circle which meets once in every two weeks.

During the summer the school conducts experiments on the home farms of its pupils. The boys in the high school are required to carry on experiments of their own choosing during the summer vacation. These experiments, scattered over a territory twenty-five miles long by five miles broad, attract much attention and are effective demonstration agents. Many students test corn from seed furnished by the school; others test herds of dairy cows, and others conduct tests of cowpeas or pop-corn. The principal of the school visits the experiments during the summer and gives general advice concerning them.

The school tests seeds and milk for the farmers. Throughout the entire year tests are made of milk and cream for the butter-fat content. Many farmers in the neighborhood sell their milk by the amount of butter-fat contained, and the test made by the school gives them a comparison with the test made by the dealer.

It will thus be seen that the expansion of a country high school into an agricultural high school is something more than the addition of subjects and a change in name. It is an entire change of point of view. Perhaps an equally great field of work for these schools may be found with that part of the community which does not usually attend school at all and for which the school funds are not usually available. It is by its work as a whole, with the men and women on the farms as well as the pupils in the school, that the agricultural high school may find its strongest claim to popular attention and its greatest field for constructive service. We may watch the further development of these specialized schools with great interest.

THE NEED FOR SPECIALLY TRAINED TEACHERS

The average high-school teacher who has been trained along traditional lines and who has been constantly engaged in preparing pupils for college and for passing the examinations necessary for entrance thereto, finds it difficult, and in many cases impossible, to change his point of view. The fact is, a new type of teacher will have to be developed, — one in whose training both the practical and the academic have played a part, and one who has the breadth of vision to see both the practical application of the academic and the academic application of the practical.

Teachers as county representatives of the Department of Agriculture. — Recently an interesting experiment was tried in the Province of Ontario. Graduates taken directly from the agricultural college were appointed as teachers in the high schools. They were all men who had taken a four-years' course and had distinguished themselves along agricultural lines. In addition to teaching, they were expected to act as the local representatives of the provincial Department of Agriculture. The latter function they performed admirably, but the former was not so well done. They had not the general education of the average senior teacher, and they were the agents of the agricultural college rather than of the department of education. The teaching of agriculture to high-school pupils was a secondary consideration with them.

These men were all earnest, hardworking, and enthusiastic for agriculture, but they had their attention centered on their work in the county and on serving the farmer directly, rather than on reaching him through the pupils in the schools. By their success as representatives of the agricultural department they have pointed the way to a most successful plan for the education of the adult farmer, — the placing of a representative of the department in every county; and by their non-success as teachers in the high schools, they have led to the establishment of a course of training in the University for agricultural teachers. Two years of this course are to be spent at the University and the School of Pedagogy and two years at the Agricultural College.

THE USE OF LAND IN CONNECTION WITH SCHOOLS. HOME PROJECTS

It is absolutely essential that actual work be done on the land in connection with the course in agriculture. No mere lecture, theoretical, laboratory, or textbook course will be sufficient. It is argued by the advocates of the special schools that the high school is not able to provide the necessary equipment in land, implements, animals, and the like, for the satisfactory teaching of the subject. In some cases this is probably true, but it is questionable whether it should be regarded as a defect. The proper use of the home farm for purposes of practical work and instruction can be made to yield results superior to any that can be obtained on school property.

> I cannot state too strongly that I believe that the best place to teach agriculture is on the farm, and that it will not cost any more money and will produce much more satisfactory results in every way, if we have a boy applying the theory, not at the school, but on the farm where he is likely to earn his living in the future. I need not say to you that one of the great handicaps in the teaching of agriculture in the high school is that it tends to become purely academic routine, and a healthy energetic boy becomes utterly disgusted with studying about agriculture and going through all sorts of motions, when his whole being cries out for the opportunity to shuck his coat and feel the sweat spring from his pores, while he knows that he is working his own crop with his own muscle and that the returns from his labors will go into his own pocket.[1]

Whether the school possesses land or not, there should be active coöperation between the school and the home farm. Some have argued that the boy coming from the farm does not need further practice, but that all he requires is scientific and theoretical instruction to supplement the practice he has already had. Most boys, so far as they bring farm practice to the school, are more likely to have been trained to use bad or indifferent methods than to use the best. It seems quite certain that the slipshod, unmethodical, unassimilated farm experience of the country-bred youth cannot, in the absence of additional practice, be made a safe basis for the effective teaching of agriculture as a life vocation.

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[1] Agricultural Instruction in Secondary Schools. United States Bureau of Education. Bulletin 14. 1913.

Work done on the home farm may take the form of supervised home projects. The problem will be set in the school, methods and plans discussed, but the actual details themselves will be worked out on the farm. Every step should be supervised by the teacher, and the pupil should keep a strict account of the whole project. A committee of the American Association for the Advancement of Agricultural Teaching reports as follows on this point: "Your Committee is of opinion that the hour is at hand for the furthering, not so much the rapid extension, of the teaching of agriculture in an ever-growing number of high schools by the improvement of the quality of the instruction where it is already established, but the centering of it upon supervised economic production carried out by the pupils upon their home farms."

The Massachusetts home-project plan. — One of the best methods that have been devised for working out the economic aspects of the instruction, is the project plan carried out on the home farm under average conditions, and not under the ideal conditions that it may be possible to obtain on the farm of an institution supported by State funds. The State of Massachusetts prescribes this plan as a condition of high schools receiving grants for agricultural education. The regulations governing vocational departments in high schools in that state are strict in requiring "that when conflict is unavoidable, or when, as at planting time, continuous application for a consecutive number of days to his project becomes necessary, all else must yield to the pupil's proper agricultural instruction, no matter at what cost for the time being to his other studies."

There are two distinct parts to this project plan: the first is productive farm-work supervised by the instructor; and the second is study directly related to that productive work. The formal class instruction covers about four spring months and about two months in the fall. The instructor's primary business in the summer (he takes his vacation during the winter) is to keep in the closest possible touch with the home projects of the pupils; and the frequency with which he visits them is determined chiefly by the distance he has to travel. For example, one instructor is known to ride a circuit of between fifty and sixty miles. The shortest circuit taken is about thirty miles.

According to a report of the state agent for agricultural education, out of a group of twenty-five boys, five from each of five schools, two earned more than $300 each, twelve earned more than $200, and only three earned less than $100 from their home-project work in 1912. The total earnings of the twenty-five pupils exceeded $5000. The highest net profit, after the pupil had paid himself for his own labor and had met all other expenses in connection with his crop, was $270.24. This pupil had paid himself $109.02 for labor, and had paid others of his family for labor, use of land, and other services, $771.49. The total income of the farm from his home project, which was the handling of twelve dairy cows from November 7 to June 7, was $1150.75. In addition, this boy, eighteen years of age, was allowed by his father for other farm-work done at home the sum of $200. Thus, the boy's income from farm-work for the period mentioned was $579.26.[1]

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[1] The Massachusetts Home-Project Plan of Vocational Agricultural Education. United States Bureau of Education. Bulletin 8. 1914.

This combination of earning and learning will solve many of the economic difficulties of the average farm youth. Even those who did not have such success as the twenty-five mentioned earned something, and learned valuable lessons besides. The smallest amount earned was $7.00 from a one-eighth-acre garden, kept so carefully and beautifully that the labor cost ran up far too high for economic production. Considered from every point of view, the home-project plan, the success of which depends on the most careful supervision, seems to offer great possibilities in secondary agricultural education.

CHAPTER IX

THE AGRICULTURAL COLLEGE

The first agricultural college on the North American continent was founded in 1857. Now every state in the Union and every province in the Dominion has one or more well-equipped colleges. These colleges have had a strenuous fight for existence and for recognition. They have had to train their own professors, to create a body of knowledge and give it pedagogic form, to break down the contempt of the practical farmer, and to secure the sympathy of hostile educators. Notwithstanding the difficulties that have beset their path, they have now established themselves on a sure foundation and have justified their creation.

THE PURPOSE OF THE LAND GRANT COLLEGES

The object of the original land grant, by which the colleges were established in the United States, was expressed in the broadest possible terms as follows: "To the endowment, support, and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."[1]

This paragraph has been the cause of much discussion. Senator Morrill, the author of the bill, was quite clear in his own mind as to the purpose for which these colleges were established. On many occasions he stated the object of the law in language which cannot be misunderstood. On one occasion he said, "It is perhaps needless to say that these colleges were not established for the sole purpose of teaching agriculture. Their object was to give an opportunity to those engaged in agricultural pursuits to obtain some knowledge of the practical sciences relating to agriculture and the mechanic arts: such as they could not then obtain at most of our institutions called classical colleges, where the languages, Greek and Latin, French and German, absorbed perhaps two thirds of all the time of all the students in college."[1]

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[1] *Agricultural Education*. Monograph 12. Education in the United States. St. Louis Exposition, 1904.

In the title of the bill introduced by him on December 15, 1873, Senator Morrill called the institutions "national colleges for the advancement of general scientific and industrial education," and he used to say that the name "agricultural college" would never have been applied, "except that it had happened to suit the casual convenience of an index clerk." Again he said, "I should hope that no farmer or mechanic would be so illiberal as to wish to have the monopoly of education in any of these land-grant colleges." They were intended to be, as Ezra Cornell said, institutions "where any person can find instruction in any study."[1]

The original land grant had two purposes in view: first, the encouragement of education in the practical arts; and, second, the stimulation of local support and interest. That these two objects have been accomplished is shown by the reputation the colleges now hold, and by the large State funds that are contributed towards their maintenance. Foreign observers of education on the North American continent have criticized adversely the American tendency to spend money on "bricks and mortar" rather than on men, and to prevent these funds from being used in extravagant projects it was expressly stipulated "that no portion of the said fund or interest thereon shall be applied directly or indirectly, under any pretence whatever, to the purchase, erection, preservation or repair of any building or buildings." [1]

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[1] *Agricultural Education.* Monograph 12. Education in the United States. St. Louis Exposition, 1904.

THE STRUGGLES OF THE LAND GRANT COLLEGES

In view of the success of the colleges, it is interesting to read some of the early expressions used concerning them. The older colleges looked with considerable disfavor upon the intrusion of these institutions into what they considered their peculiar domain. "A waste of public land and of private fortunes"; "the dreams of amiable but visionary enthusiasts"; "another illustration of the folly of attempting to make a silk purse out of a sow's ear"; "a project analogous to the fantastic device to extract gold from sea water," and many others, were the expressions applied to them.

In a report presented by the Commissioner of Labor in 1893, the agricultural colleges are called "half-developed colleges of agriculture and mechanics." He places them between the trade schools and the technical colleges of university grade, giving them a very indefinite and nondescript position. This attitude was, perhaps, not hostile to the colleges, but at any rate it shows that they had not yet achieved a recognized position among the educational institutions of the country.

The State Superintendent of Education for Wisconsin, in his report for 1893–94, expressed grave doubts as to whether the colleges had justified their existence. He argued that the State goes beyond its admitted duty of training boys and girls for citizenship when it attempts to teach them trades and professions. It is then entering upon the policy of absorption of individual rights and responsibilities, and he deplores the fact that public opinion seems to be swinging in that direction.

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[1] *Agricultural Education.* Monograph 12. Education in the United States. St. Louis Exposition, 1904.

> "It is not easy," he says, "to overestimate the importance of our farm interests, and any agency that tends to impart to those engaged in this pursuit that quickness of apprehension and alertness of thought that characterize those engaged in manufacturing and commercial enterprizes, is to be welcomed. But agriculture is not a science; it has no body of established doctrine that may be formulated and taught, as law or medicine is taught. Mathematics, science, literature, languages, and allied topics are the same for the farm boy as for others. Neither for him nor for others is there a short cut or royal road to learning.
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> "The power of concentrated thinking is the result of severe and protracted mental training. Farmers need it as much as men in other professional pursuits. Agriculture can offer no superior facilities for the acquisition of mental power. In so far as these schools resort to the same methods as the literary colleges adopt, it is simply a multiplication of agencies to secure the same results. The instructional force in our own agricultural college [Wisconsin] involves an outlay of nearly $20,000, and it has graduated nine students in ten years. The last catalogue showed an attendance of two, one of whom graduated in June. It seems absurd to call such a faculty with so many students a 'college.' An attendance at the dairy school of boys from the farm for twelve weeks in the winter gives them scant title to enrolment as university students, and affords little occupation to the professors."

Not only were the teachers and directors of educational thought and institutions opposed to the colleges, but the farmers themselves, for whom the colleges were largely designed, looked upon them with considerable contempt, and for many years they were hardly regarded seriously. The opposition and indifference of the farmer have not yet entirely disappeared, although now, perhaps, the opposition is taking a different direction. In several states it is now contended that the money spent on the maintenance of the colleges would produce greater results if it were devoted to agricultural instruction in the public schools.

The leaders of the agricultural colleges and those who have the success and development of these colleges at heart, are inclined to think that this opposition has practically ceased. We look at the great progress that has been made, we think of the influence that the colleges have exerted on agricultural methods, we note the general interest in agricultural affairs, and this leads us to conclude that a stage has been reached when the whole situation can be regarded with complacency. That agreement on this point has not been reached, however, is shown by the fact that probably the most scathing criticism to which the colleges have ever been subjected has been made within the last four years.

THE REPORT OF THE CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING

The Carnegie Foundation for the Advancement of Teaching, in its fourth annual report, considers in detail the teaching force and the function of these institutions. The following extracts, in almost the exact wording of the report, will show its general attitude and will also enumerate the charges: —

1. The colleges of agriculture and the mechanic arts have imitated, mainly, the old arts colleges and schools of technology.

2. In nearly all the separate colleges of agriculture it [engineering] has become the dominant factor. . . . The tendency in these institutions "has been to develop along the lines of an engineering college."

3. No other colleges are so successful in taking the boy from the farm and sending him somewhere else.

4. The land grant colleges are "open to grave criticism on the ground of low standards." Boys go to agricultural colleges for engineering "because they can obtain an education cheaply and upon easy entrance requirements."

5. The chief reason in all such cases is the desire for numbers and the wish to impress the legislatures. . . . The most obvious field for getting students was the various

branches of technology, and in order to accomplish this, the term mechanic arts was construed to mean high-grade engineering.

6. The agricultural college in nearly every state depletes the high school to magnify its own cause. In every case the result is educational demoralization.

7. Speaking to the professors of the colleges, the report says: "There is a wide divergence amongst yourselves as to what your purpose is in education. There is no unity as to what your mission is, as to what your relations to education are to be. . . . Is the work of the agricultural college that of a college or that of an agricultural trade school?"

8. Agriculture and similar subjects introduced into the secondary schools must remain "studies for general training."

Let us now consider these charges for the purpose of seeing how far they are borne out by the facts and the conditions that exist.

THE FACTS IN THE CASE

The influence of the old arts colleges. — The colleges of agriculture and mechanic arts were really established as a protest, though not so stated, against the old-time college, but this protest could not be put into effective working order at once. The entire educational structure had been reared upon the old type of college. It was the only type the people knew, so it was quite natural that it should be taken as the starting point. The demand grew for an education that should confer on men and women the ability to do things, and as rapidly as the needs were discovered the colleges adapted themselves to meet them. It is difficult to form an estimation of the educational conditions that existed fifty years ago, when the agricultural colleges were established. There was hardly a popular demand for education, and even to-day many schools that have been established to give industrial training are only partially filled with students. The demand for the kind of instruction that the colleges were prepared to give had to be created by the colleges themselves.

Is engineering the dominant factor? — We are told that engineering has been the dominant factor, but the figures available do not bear out this contention. During the years 1903–1909, the increase in the number of students taking agriculture was 138 per cent, while the increase in engineering was 66 per cent. In the four years 1905 to 1909, the increase in the number of students in the degree courses in engineering was 34 per cent, and the increase in the degree courses in agriculture was 140 per cent.[1]

At the time the colleges were established, agriculture was largely regarded as a one-professor subject. One professor, it was generally thought, could teach the subject, as another man could teach language or mathematics. The subject has now been divided into various departments, each one of which now offers more courses than the entire subject of agriculture required even fifteen years ago. For example, the Agricultural College at Cornell University offered three subjects in agriculture in 1890, 37 in 1900, 169 in 1910, and 234 in 1914; and this has been the tendency in all the colleges.

Progress has also been made, of course, in engineering, but the comparative growth has been much greater in agriculture. It is no doubt true that during the early years students in attendance in the mechanic-arts courses increased more rapidly than those in attendance at the agricultural courses; but this was due largely to the condition of agriculture at the time and to the enormous development of the mechanical industries. Farms were mortgaged, hours of labor were long and hard, and it was not the ambition of the farmer to have his son remain on the farm. The development of the industries led to the idea that the future of the country boy lay in their direction.

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[1] Association of American Agricultural Colleges and Experiment Stations. Twenty-fourth Annual Report.

Taking the youth from the farm. — The next item in the count is the charge that the agricultural colleges are taking young people from the farm and sending them somewhere else. With this argument some sympathy must be expressed, but it is based on a misapprehension of the function of the college. It is difficult to obtain definite statistics of the actual numbers of students returning to the farm; but it is admitted that many of the graduates do not take up practical farming. A professor of the Ontario Agricultural College says: —

> A young man comes to the college from an Ontario farm. If he decides upon the four-year course, there is small chance that he returns to the farm. The four-year course fits him for one of the many branches of professional work, and at the same time opens his eyes to the disabilities of farming. The blame for the direction of his choice lies, not in the education he has gained, but in the conditions of farm life. Until these are better the agricultural college need not be expected to serve as a recruiting ground for the farms any more than the university.

Of the 1913 graduates of this college, less than twenty per cent returned to the farm.

This opinion is frank, but it omits any reference to the work of improving the farm conditions complained of, which the graduates might reasonably be expected to do. There is no doubt that the founders of these colleges had the idea in mind that they would, among other things, train the youth of the country to enter upon farming and so assist in the solving of the problems of the farm.

The mission of the college, however, is to train leaders, men who can control, direct, and inspire. Engaged in work of this kind, these men do much more to improve the condition of agriculture than if they returned directly to the farm. The colleges should not be judged by the numbers they return to the farm, but by the general improvement they have effected in agricultural practice and methods.

Low standards of admission. — We are also told that these land-grant colleges have demoralized education by the maintenance of low standards of admission. That standards have been low is true to some extent, but it must be remembered that during the early years of the existence of the colleges there were few secondary schools throughout the country in which any proper education could be obtained that would qualify for admission to the colleges. The older institutions had been in existence for a generation previous to the establishment of the colleges and were popular enough to insist upon a fairly high standard of admission and yet obtain a satisfactory number of students. The standards had to be fixed according to the educational conditions existing in the respective states. These standards, however, have been continually raised. Conditions of admission were made easy, not from a desire to establish low standards but simply from the necessity of meeting existing conditions until those conditions should be improved. The strongest of the colleges now require the completion of the regular four-year high-school course, and the tendency in all others is to fix this standard as rapidly as conditions will permit.

The desire for numbers. — The desire for numbers is said to be the reason for the low standard, and the desire for numbers is said to be for the purpose of impressing the legislatures. May it not be that the low standards were adopted, not for the sake of the institution itself, but for the purpose of affording opportunity to a larger number of young men to get the training they had hitherto lacked? This assuredly is the fact of the matter. Mistakes have been made in these institutions, and even now, with half a century's experience, conditions are far from ideal; but this they share with every other educational institution in the country.

Lack of agreement among professors. — The Foundation states that there is lack of agreement as to the scope, function, and purpose of these colleges among those who are in charge. This may have been true of conditions as they existed a quarter of a century ago; and any attempt made to introduce uniformity at that time would have wrecked the whole movement. Conditions in the several states were different, and plans were wisely left to the local legislatures. It must be admitted that for many years there was no intimate relationship between the professors, but they occupied an entirely new field and suffered all the hardships of the pioneer. They were without any organization to promote their interests. With the formation of the "Association of American Agricultural Colleges and Experiment Stations," in 1887, this condition was rapidly changed. The association entered into the freest discussion of all topics relating to the colleges and quickly brought order out of chaos. There are, of course, still differences, but there is also substantial agreement on policy, aims, and methods, and conditions are being standardized as rapidly as the circumstances of each college warrant.

Has agriculture no vocational value? — The last assertion, that agriculture and similar studies introduced into the secondary schools must remain "studies for general training," and that they can have no vocational value, strikes at the root of the whole question of industrial training for vocational purposes. On the contrary, it is the prevalent belief to-day that these subjects should be given the greatest possible utility or vocational value. The old education was admittedly for the few who intended to enter the church or the professions. A man's status was determined by his rank in society. At Yale the practice of arranging the students in the annual catalogue according to the rank of their parents was not discontinued until 1767, and at Harvard not until three years later. The alphabet is now no respecter of persons. The new education represented by the land-grant colleges is for all who can avail themselves of it. These colleges stand for equal educational opportunity, for a rational combination of the practical and the cultural, and a general adaptation to the needs and requirements of modern life.

THE FUTURE OF THE AGRICULTURAL COLLEGES

It is now pertinent to consider what is to be the function and purpose of these colleges in the future. We are all ready to admit something of disappointment in the results that have been achieved by the colleges in giving direct education along agricultural lines to the great mass of farmers. The constant raising of entrance requirements, to make them equal to those of the older institutions of higher learning, has to a large extent rendered it impossible for them to perform that service. The early discussions show very clearly that direct practical instruction to the working farmer (and mechanic) was one of the ends in view. It seems to have been a mistake to attempt to do this through a four-year course. Neither the farmer nor the mechanic, in the present economic condition of society, will be able to avail himself of provisions of this character, and other methods must be found. In view of the changed conditions, it would seem that the colleges should now direct their work so that they may accomplish the following ends, each one of which includes many subordinate lines of effort:—

Courses of collegiate grade. — The four-year courses leading to a degree should be made of real collegiate grade, and the requirements for admission must be the successful completion of a four-year course at an approved high school. This will mean that the preparatory courses, the courses of secondary grade, and the various short courses, must be sharply differentiated from the collegiate courses. By adopting this plan the numbers in attendance will probably be reduced, but this may not prove a disadvantage, for the smaller classes will result in better work being done; and many who would enter under easier conditions may be induced to take courses better suited to their abilities. The work of many college classes has been materially hindered by the presence in them of students who were insufficiently prepared and were therefore unable to carry the work offered. The purpose of the college-grade courses should be to develop leaders and teachers of the highest character. The courses should be so arranged as to enable a person to obtain a broad idea of the whole farming problem, on the one hand, and to give him the fullest knowledge of some special branch, on the other.

Changes in economic and social conditions have rendered new subjects necessary, and many that are now superficially dealt with, if at all, will require much more attention. The farm is not a separate entity. It is a part of the body politic. The economic and social relations which it bears to that body are at present practically untouched in the college courses, although the terms "rural economics" and "rural sociology" are being used in the programs of studies. During the past twenty years a large body of knowledge, which is largely unused, has been developed along these lines, and this knowledge is more important in some respects than much of the information on crop-production that is now being imparted. Rural economics is as important to the study of agriculture as chemistry or botany. The social relations of the agricultural community will have to be studied much more closely, and the college student must be taught how to discover for himself the exact social and economic status of the region in which he is to be placed.

The collegiate course, if it is to do its work and fill an urgent need, will have to develop leaders and investigators. As Bailey says, in speaking of the best type of college, "It must stand broadly for rural service. It must include within its activities such a range of subjects as will enable it to develop an entire philosophy of country life."

Short special courses. — An important function at present performed by the college is the giving of courses of lower than college grade to persons who are unable or unwilling to take the longer courses. It is hoped that this function is only a temporary one, and that as secondary education in agriculture develops, it will become wholly unnecessary, thus allowing the colleges to devote themselves entirely to real college work. These short courses are of two kinds: intensive courses devoted to the study of special subjects, and general courses. The former are carried on for periods of from two weeks to three months, and are usually held during the winter. The latter are designed for those young men and women who have decided to take up farming as an occupation, and they usually continue for one or two years. Great care should be taken in planning these courses. As the majority of these students go back to the farm, the instruction should be designed to be of immediate practical use and to fit them for the positions they intend to occupy.

Training teachers. — Another important function which the colleges may perform is the training of teachers. It has sometimes been contended that our educational system started at the wrong end of the scale, and that undue stress has been placed upon the university and the college; but the history of education and civilization shows that new methods and knowledge have originated in the higher institutions of learning and have then gradually permeated the whole educational system. The teachers of the lower schools must receive their professional training and intellectual stimulus in schools of higher grade if progress is to be made. Thus in any movement for the betterment of rural and agricultural conditions we must look to the agricultural college and the university as our source of knowledge and inspiration. The whole subject of the training of teachers is of great importance and will be dealt with separately.

Extension service. — Since it is manifestly impossible for the majority of working farmers to attend the college, and as it is also evident that they could not be accommodated if they were to attend, it is clearly the duty of these institutions to go to the farmer. Most of the colleges have now well-organized extension departments which are doing the work effectively. But there are yet a large number of farmers who have not been reached, and it is upon these that efforts should now be concentrated. The colleges have had more success in taking the college to the farmer than they have had in getting the farmer to the college. All the colleges are now recognizing the importance of the work, and a separate chapter will be necessary to describe, even partially, the various agencies employed.

Investigation and research. — Another function of the college is the discovery of new and more profitable methods of production, distribution, and transportation. The experiment stations stand at the head of any complete scheme of agricultural education, although the research work is not usually regarded as part of such a scheme. Scientific training and research, however, combined with practical demonstration of the work done, are the sum and substance of any real agricultural progress. Primarily, of course, the experiment station is an organization for the acquisition of knowledge rather than for its distribution; but unless the knowledge thus secured is properly distributed great results cannot be expected. The continuance and permanence of research is now assured, and it remains to put its results into the hands of those who have the ability and the opportunity to use them.

Dissemination of existing knowledge. — There is in existence a large body of simple, easily adaptable, scientific knowledge which has not yet reached the people for whom it is especially suited. Research is being made into every branch of agriculture, and it is an economic necessity that the knowledge which has been accumulated and which is being added to daily shall be utilized to the fullest extent. From a purely business standpoint, every agricultural college should have a department of publicity or information, not for the purpose of advertising the college, but for the purpose of showing the farmer that by the application of the methods discovered by the college he can expect to secure greater returns from his labors.

The publicity committee of the New York State Agricultural Society says in its last annual report: —

> We would suggest that the chairman of the publicity committee be a paid employee of the State, and in the Department of Agriculture under the direct supervision of the Commissioner; that he devote his entire time to New York State agricultural publicity; that such work include the editing and sending out to newspapers of the state articles of interest on agricultural subjects in the form of plate matter for their convenient use; the preparation of magazine articles and advertisements; the suggesting of plans for New York State exhibits in the different states; the conducting of a big land show in New York City, devoted exclusively to New York State and articles made from New York State agricultural products, and illustrating subjects and matter pertaining to New York state agriculture.[1]

The extension department of the Agricultural College of North Dakota supplies nearly three hundred newspapers, magazines, and agricultural journals, with literature and observations written with the express purpose of being of direct service to their rural constituents. Many other colleges are doing a similar kind of work. The matter prepared for the press should be of two kinds: the technical, and what may be called the social, since it deals with rural institutions and social relationships. Up to the present the former has largely monopolized attention, but it is now being recognized that the social aspects of country life have large influence on both the character of the population and the agriculture practised in the region.

More than five hundred periodicals are now devoted to agriculture, and the amount of agricultural literature available for free distribution has more than doubled within the past five years. It may be argued that sufficient publicity has been secured; but there are new fields in need of cultivation. The progressive farmer is well supplied and knows how to obtain information when he needs it. It is the indifferent farmer who must be reached, and new methods of circulation and advertisement must be devised to accomplish that end.

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[1] New York State Agricultural Society; Proceedings of the 73rd Annual Meeting. Bulletin 47. New York State Department of Agriculture. Albany.

Authoritative work of this character will do much to arouse the general public. What has been called "the reportorial style of literature" must be avoided. Many bright spots and many examples of remarkable success are to be found scattered through the country, and these have been exploited as though they were typical instead of exceptional; but this is misleading. No business succeeds without proper and judicious advertising, and the work of the colleges is not likely to prove an exception.

THE BROADER PROBLEMS AWAITING THE COLLEGE

The general accusation leveled against the majority of educational institutions is that they have not modified their methods to meet modern requirements. In some degree this is applicable to the agricultural colleges. The colleges have done a great deal in certain lines, but their work has been largely restricted to methods of production. While production will always require attention, owing to the rapid increase of population, there are other subjects that should receive considerably more attention than has yet been bestowed upon them. As a result of the rapid development of agricultural teaching in the elementary schools, high schools, and special schools, it may be assumed that definite technical instruction in agricultural processes will become somewhat less necessary in the colleges, thus enabling them to devote their attention to other subjects which are of great economic importance to the farmer.

Problems of transportation. — Instruction relating to methods of transportation, including railways, electric roads, wagon roads, and water-ways, should be given. The farmer does not make his profit primarily at the point of production, but at the point of consumption; and the difference between profit and loss often lies between these two points. No matter how good the railways may be, if the farmer has difficulty in hauling his product to the point of shipment he is not able to take full advantage of the rates they offer. Considerations of transportation have been largely centered on railways, and to a less extent on waterways, and until recently wagon roads have been wholly ignored. A bad road is a tax on every ton of produce hauled over it; it increases the three-mile haul to ten, the time required for the trip from one hour to three; and it shortens the life of the team and soon renders the wagon a wreck. Without adequate transportation facilities, agricultural development is impossible; and for this reason the colleges should deal with the problem in an effective manner.

Problems of distribution. — Another question not yet satisfactorily dealt with is the problem of distribution. The basic problem here is how to bring about a readjustment that will give to the farmer a full and just proportion of the amount the consumer pays for the produce. According to the United States Department of Agriculture, it costs approximately fifty-five per cent of the price paid by the consumer to deliver the product of the farm to the consumer's kitchen. Is there not somewhere an unnecessary leakage and waste in our system of distributing and marketing? The remedy for this loss is one that has been often proposed, namely, coöperation.

The American farmer is the only class of great economic importance who is not efficiently organized for his own protection and progress. He buys and sells and conducts all his business operations as an individual. He must accept for his products the price fixed by a well-organized body of commission merchants. Denmark has pointed the way to remedy this condition. In considering her example, we are forced to the conclusion that the successful adoption of the principles of coöperation depends upon the spirit of the people. The spirit required has not yet been developed in the American farmer. Herein lies one of the neglected opportunities of the college. A consideration of this question involves the tariff, the function of the middleman, and a number of other problems which the colleges have only lightly touched.

Application of correct business methods to the farm. — The colleges should also devote attention to the application of correct business methods and the development of simple systems of bookkeeping for the farm. If the other industries of the country were conducted on the same basis that obtains in agriculture, many of them would be bankrupt within a month. The farmer has not received the consideration in financial circles that his business warrants. He cannot obtain money, either for permanent improvements or for temporary necessities, on the same terms as the manufacturer or the merchant. The colleges should take hold of this question of the farmer's credit and develop a system that will meet the peculiar conditions of the country and place the business of agriculture on a financial footing commensurate with its importance to the national welfare.

The training of leaders. — So many courses are already given in the agricultural and mechanical colleges that one hesitates to recommend an additional one; but the ground is not yet fully covered. It is now generally admitted that the main purpose of the colleges is the training of leaders. One field that most urgently requires leaders is, the general betterment of country life. The course for training leaders in country life should include the principles of rural economics, rural education, rural church management, rural recreation, rural society and rural organizations generally, and should prepare men to take a leading part in solving the problem "of developing and maintaining on our farms a civilization in full harmony with the best American ideals."

THE PLACE OF THE AGRICULTURAL COLLEGE IN THE EDUCATIONAL SYSTEM

In conclusion, let us consider the position that the agricultural college is to occupy in the educational system of the state and nation. So far as agriculture is concerned, the college should take its place at the head. This implies leadership; but just here a harmonious articulation must be worked out with the education department of the state. Cases are not unknown in which the educational work has been much hindered by conflict and antagonism between these two departments. The college should be regarded as an integral part of the system and not as a separate entity. This imposes duties on both the schools and the colleges. It implies, on the one hand, that the schools, while giving an education applicable to the immediate needs of their pupils, shall at the same time in some measure prepare for entry into the college; on the other hand, that the college shall place all its resources at the service of the schools, in order to give the assistance required in technical matters. We have not yet considered definitely enough the relation of the agricultural college and the university to the elementary schools. In some states they stand too far apart. In many states the condition of the law is such that, if the colleges take any part in the work of the elementary schools, it is entirely owing to their own interest and initiative, and not to any right that has been given to them.

It will now be in order to consider how the college may assist the rural schools. The methods outlined are those adopted by the Ontario Agricultural College.

1. For many years the college has been engaged in the training of teachers, mainly by means of summer courses

and special courses continuing for three months. These are organized in coöperation with the Education Department.

2. Every inspectorate in the province has its teachers' institute of two days, and the college sends speakers to these institutes. In addition, the college offers its facilities for these meetings, and will take full charge of them when requested.

3. Senior classes in the public schools are encouraged to make agricultural excursions to the college. For many years the college has offered to allow its professors to take charge of these excursions, and conduct them through the college grounds and buildings, giving simple explanations while so doing; but unfortunately the offer has not yet been accepted. The annual excursions of farmers' institutes, attended by about 50,000 farmers and their wives, led to the idea that similar excursions might be organized for the older children.

4. Rural school trustees are encouraged to visit the college and the consolidated school connected with it. By this means it is hoped to render the trustees more sympathetic toward the introduction of elementary agriculture and school gardens into their own schools.

5. Summer courses are organized for public school inspectors whose work lies in rural districts. There is no better place than the agricultural college for obtaining an insight into means and methods of improving rural conditions and agricultural operations. It is necessary that the inspectors shall be in entire sympathy with the work that many of their teachers will be called upon to do.

6. Short courses are given to science teachers in the high schools and continuation classes. The general adoption of this procedure would soon vitally influence the rural schools, as most of the teachers in them have received their academic training in the high schools. The teaching of physics, chemistry, botany, and geology could then be adapted somewhat to such practical considerations as the

growing of plants, soil-culture, use of fertilizers, and the destruction of injurious insects, and be none the less, but rather more, good science teaching.

7. The publications of the college are placed in all the public school libraries and the pupils are instructed in their use as references. These publications consist of the college monthly, "the O. A. C. Review," the annual report, and many special bulletins.

8. The teachers are encouraged to use the college as a correspondence school and to train the older pupils to do the same. The answering of inquiries is a very extensive phase of college service. Every department of the college is engaged in this service, and much help is given to teachers and pupils.

The colleges have a very important part to play in the direction of the work in the elementary schools, and until they enter into this field in an aggressive and effective manner the work will not be properly done.

CHAPTER X

SOME FORMS OF EXTENSION SERVICE

THE three phases of work upon which the colleges may properly enter are investigation, instruction, and extension service. "Investigation may be called the search for truth about agriculture and rural affairs; instruction, the incarnation of this truth in trained leadership; extension service, the dissemination or democratization of this truth — its distribution among all the people interested." The most pressing need at present is that the truth already discovered shall be placed in the hands of farmers and others who are to be directly benefited by it.

At the outset it will be well to define exactly what is meant by "extension" teaching. In the first report of the committee on extension work of the Association of American Agricultural Colleges and Experiment Stations, the following definition was formulated: "Extension teaching in agriculture embraces those forms of instruction in subjects having to do with improved methods of agricultural production and with the general welfare of the rural population that are offered to people not enrolled as resident pupils in educational institutions."

THE SCOPE OF AGRICULTURAL COLLEGE EXTENSION SERVICE

The colleges are carrying forward the extension work in the spirit of the foregoing definition and any attempt to classify the different activities is somewhat difficult. Perhaps the best classification that has yet been made is the one adopted by the committee above referred to. In general it is as follows: —

A. Definite systematic instruction, or formal teaching: —
   1. The lecture course: Given under the auspices of various clubs and organizations, one night a week for several

weeks. These lectures should deal with definite topics, and the course should continue long enough to deal with that topic completely.

2. The reading course: This should be drawn up by the college in coöperation with the state education department. It will be pursued by the student at home. Provision should be made for giving help by correspondence.
3. The correspondence course: Subjects are prescribed and questions set by the college. The answers are sent to the college and returned to the student when corrected.
4. The movable school: Lasting from one week to one month, and conducted as a school but itinerant in character.
5. Permanent demonstration plots or farms: The value of certain methods of cultivation or varieties of crops is demonstrated right at the door of the farmer.
6. Study clubs of various kinds, such as boys' corn clubs, girls' canning clubs, poultry clubs, and the like.

B. Teaching that is more or less informal, advisory, or suggestive:
  1. Conventions: —
    a. Farmers' institutes: These are conducted by the colleges in many states. Where they are not conducted directly by the college, they look to the college for assistance.
    b. Conferences on special agricultural topics, such as dairying, poultry-raising, fruit-growing, and the like.
    c. Teachers' institutes for agricultural purposes.
  2. Itinerant lectures: —
    a. Miscellaneous lectures on call, and under many auspices.
    b. Traveling advisers, or field agents.
    c. The permanently located expert, or adviser, for a county or other prescribed district.
  3. Literature: —
    a. Publications: monographs, leaflets, circulars, bulletins, and the like.
    b. Correspondence.
    c. Traveling libraries.
  4. Object lessons: —
    a. Field and platform demonstrations: less formal than demonstration plots and more readily movable in character, such as spraying demonstrations.
    b. Educational exhibits at fairs: stock-judging, corn-testing, and the like.

  - *c.* Excursions to the college to study experiments or to see demonstrations.
  - *d.* Special trains, railroad cars, or vans carrying agricultural material for educational purposes.

C. Coördination and coöperation: —

1. Holding "conferences on rural progress," to bring together all the people interested in rural life for discussions of the larger problems of rural betterment.
2. Coöperation with other agencies and activities, such as chambers of commerce, boards of trade, manufacturers' associations, labor organizations, and the like.

There is one grave danger to be guarded against in all this work. In the past it has been looked upon in too many cases as a means of exploiting the college, and in some cases of advertising individual professors. It should not be looked upon as a scheme by which students are attracted to the college. It is not even a plan to arouse the interest of the boy and girl in the college, although that should follow as a natural result. It is purely an educational enterprise, and its final purpose is to reach every man and woman in every farm community.

THE QUESTION OF ORGANIZATION

Some of the above activities are taken up by all the colleges, but one noticeable feature of most of the extension work hitherto conducted is its independent character. This is probably accounted for by the fact that there have been many things in the field of agriculture in which experimentation must be done before definite lines of coördination can be established. A point has now been reached when coordination can be undertaken with some hope of success. While much is being done in this direction, it is recognized that much remains to be done.

In 1909, steps were taken to bring about closer coördination of extension effort. In that year, at the twenty-third annual conference of the Association of American Agricultural Colleges and Experiment Stations, a section on extension work was organized. This was placed on equal footing with the two sections of instruction and investigation then existing; and through it much has been done to organize and unify the methods in use. Most of the colleges have now organized extension divisions, or departments, and the extension service is largely under the direction of the heads of those departments, subject, of course, to the general policy of the president or director of the college.

It is scarcely possible to estimate the total sums that have been spent on the work of the colleges, particularly on outside work, but it is safe to say that, great as has been the improvement in agricultural practice, the returns have not been commensurate with the money expended. This may be attributed to lack of concentration. Scattered efforts, and in some cases limited financial resources, have prevented this work from achieving its fullest measure of success.

It is not always advisable for a college to concentrate its extension efforts on a single issue for a particular year. The method of developing gradually a large number of interests is the better educational policy in the long run. This policy is not, however, antagonistic to that of paying large attention to and concentrating efforts on a particular problem when there is special need. On this point the following statement from the Iowa Agricultural College is illuminating: —

> The efforts of the members of the staff are not confined to their respective lines of work. There are times when the entire force of the department is directed towards some particular problem. It may be the school question, the seed corn, or some other phase of county demonstration work, the purpose being to create interest and secure some definite action on the part of the people. In fact, two or three important lines of work are singled out for the year, and every member of the staff will lend his aid to the movement on every occasion.

Another danger to be guarded against is that of giving too much help. If the assistance given does not enable the farmer ultimately to stand alone, it is missing its mark. The spirit of self-dependence should be developed in each community; the help needed should grow less and less. It is said that in some states the people depend as largely on outside aid in organizing and holding farmers' institutes as they did fifteen or twenty years ago; in others, on the other hand, a large proportion of the meetings are managed entirely by local authorities.

PHASES OF EXTENSION SERVICE

Reading courses. — In the early stages of the movement for agricultural extension, reading courses occupied a prominent place; but of recent years they seem to have fallen somewhat into disfavor, probably because it was found that they were rarely taken except by those who were already interested in a particular subject. The reading courses have done good work, however, and if properly conducted they still have a mission to fulfil. The courses are generally conducted somewhat as follows: The college lays out a certain course of reading on definite topics, — for example, on dairying, fruit-culture, poultry-raising, or corn-growing, — prescribes books or bulletins for reading, and makes arrangements for supervising the work and supplying the readers with examination questions. The student is asked to read carefully the chosen topics. When the subject is read, printed questions are sent to the student and answers requested without recourse to the book or bulletin used for the lesson. Usually specially prepared leaflets or pamphlets will be found more satisfactory, as the average textbook contains considerable matter that is not applicable to the subject of the course.

In 1882, the president of the Ontario Agricultural College outlined a reading course for farmers, and certificates, prizes, and scholarships were offered. The course was not taken advantage of widely and the prizes went mainly to ex-students of the college. Owing to this fact and to declining enrollment, the enterprise was discontinued and has never been resumed.

The first widely successful course of this kind in the United States was established in connection with the Pennsylvania State College in July, 1892. The college provided books, and gave the readers examinations whenever they were ready to take them. Many of the readers found difficulty in understanding the books, for it was found impossible to provide suitable texts; and assistance was given by correspondence in clearing up difficulties. At first these courses covered seven books; the second winter the list was increased to sixteen, and in addition a special set of lessons was prepared on farm bookkeeping. In 1898, the character of the movement was somewhat modified and the name changed to "Correspondence Courses in Agriculture," the title which it now bears. There are now thirty-six courses, and the number of students enrolled is 4000.[1]

A somewhat different plan is followed at the New York State College of Agriculture at Cornell University, where the main idea is to provide elementary reading for those not in the habit of reading books or bulletins. The Cornell Reading-Courses were commenced in 1896, and they have now assumed large proportions. They are divided into two parts, each directed by its own officer: the Lessons for the Farm, and the Lessons for the Farm Home.

Reading courses will not succeed of their own momentum. Somebody must supply the motive power and keep up the interest by proper organization. The farmers' institutes might well consider the advisability of forming small reading clubs of ten to fifteen members to supplement the topics discussed at the institute meetings by more intensive study. These small clubs could appoint correspondents who would be able to obtain from the state college information regarding extended reading on any particular topic.

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[1] Report of the Department of Agriculture. Harrisburg, Pennsylvania. 1913.

Movable schools. — Movable schools are a form of extension service from which much good may be expected. In many states the movement has assumed considerable proportions. It arose because it was felt that no instruction of a systematic character could be given at the regular farmers' institute meetings, which continue for only one or two days. The American Association of Farmers' Institute Workers adopted the following resolution in 1906: "That this association, appreciating the importance of providing more systematic instruction in agriculture, hereby expresses its approval of the use of the movable school of agriculture as an instrument for this purpose." Before a movable school can be organized in any locality there must be a demand for it, and for this reason it is not suitable for pioneer work. The ground must be prepared, and this has been done in nearly all cases by the regular meetings of farmers' institutes.

In the organization of movable schools, care must be taken to keep the classes small. The schools must continue long enough to cover a subject thoroughly, must provide plenty of individual work for the students, and must concentrate the work on one or two topics representing the predominant industries of the locality. As students who attend these schools are not generally skilled in the art of taking notes, a printed syllabus of the lecture is essential. This should always contain a list of references and other material that can be obtained by the student.

In the past there has been a tendency to look upon a large attendance as conducive to efficiency and essential to success; but every student in excess of fifteen or twenty lessens the amount of individual work that can be done by each; and it is the individual work that counts. If large numbers are allowed, the school should be broken into sections for laboratory work and the staff be large enough to supervise this work properly.

In many cases success has been lost because of the requirement of too intense application. When the schools are attended by men and women without any other occupation, they should take up the full time of the student; but as a rule the persons attending do not belong to this class. For this reason it would seem that one session a day for two weeks would be better than two sessions a day for one week. This plan would have another advantage; it would enable the instructor to make himself acquainted with local conditions, and with this knowledge he would be much better able to adapt his instruction to meet those conditions.

The question of the method of organization of these schools is of some importance. It is doubtful whether students under eighteen or nineteen years of age should be admitted. Before admission, all students should have had practical experience on a farm and sufficient general education to make them capable of understanding the instruction. If they lack the latter, the efforts of the teacher will be largely wasted and the progress of the class hindered. There should be required of the members a written agreement that they will pay the fee, attend the lectures, and perform all the practical work required. The locality should provide suitable rooms, properly lighted and heated, and furnish material for illustrative purposes. It should also provide comfortable lodgings for the instructors. In order that the work may be most effective, it should not be discontinued immediately after the school is closed. The student should be required to pursue his studies through the year, periodically reporting progress and receiving advice by correspondence or otherwise.

Among farmers' institute workers there is a general opinion in favor of movable schools. An investigation conducted by the Office of Experiment Stations of the

United States Department of Agriculture, shows that fifty-four per cent of the replies received from those workers were in favor, nineteen per cent were not decided, and twenty-five per cent were against the establishment of movable schools.

Success depends first on local spirit, and second on the ability of the instructor. Considering the importance of the work, the colleges might well devote some time to the training of men specially for it. This could be done in post-graduate courses after the student has had some actual experience on the farm; for the ideal teacher for this work must have scientific knowledge, pedagogic training, and practical farm-experience.

County experts. — One of the most far-reaching efforts to carry definite agricultural instruction to the farmer is the location of an expert permanently in the county. In the Province of Ontario this official is known as the County Representative. In that province there are more than thirty of these men, with as many assistants, permanently located in as many counties. The majority of them are provided with stenographers, and in some cases it has been found necessary to appoint two assistants during the busy season.

In the Province of Ontario, these representatives were introduced into the counties by a coöperative arrangement between the Departments of Agriculture and Education. Their work has been of the most varied character, and it has reached many districts not previously touched. Representatives of adjoining counties frequently hold combined meetings, and every effort is made to join forces when the problem in hand requires such assistance. It may also be added that there is now a friendly rivalry between counties, and that all the counties that are without representatives are making urgent applications for them. That the work of these men is appreciated is well shown by the fact that the council in one county voluntarily added $750 to the

$1200 paid to the representative by the department; and it is well known that these bodies are not in the habit of going down into their pockets and giving out money except for value received.

Farmers' coöperative demonstration work. — Another example of the work of agricultural experts on the ground is coöperative demonstration. In the United States this work was called forth by a crisis. In 1902, the Mexican cotton-boll weevil appeared in Central Texas and practically destroyed the crop over large areas. This meant ruin for the region, as both large and small planters depend on cotton for their income. Entomologists had already studied the insect and had shown how cotton might be grown in spite of it. But this involved new methods of cultivation and the farmer wanted a "remedy" which would destroy the pest.

As this was impracticable, the Bureau of Plant Industry appointed Dr. Seaman A. Knapp to show the people how they could grow cotton in spite of the weevil. He appointed a successful farmer as county agent in each county. These agents visited the farmers and induced a certain number to plant a small area of their crop according to the method advised by the Department of Agriculture. They were to be known as demonstrators, and their work was given frequent and careful supervision. Other farmers were encouraged to try the same methods, but were visited only once or twice during the season. These were called coöperators. The methods adopted were simple, and it is not necessary to recite them here. The diversification of crops was also encouraged, so that in future the planters should not be entirely dependent upon cotton.

The results of the movement from an economic point of view were colossal.

> Before long the planters of Louisiana, Texas, and Arkansas, where the boll weevil existed, not only "made" cotton, but began to raise corn and vegetables and hogs and chick-

> ens and cattle. In 1904, at a little railway station in Texas, there was shipped one carload of hogs. In 1905, through the influence of Dr. Knapp's teaching, twenty-seven carloads were shipped. In Louisiana in 1908, the farmers were buying corn. In 1910, in addition to supplying the corn needed at home, they were able to sell 50,000 bushels in the open market.

In 1900, the Southern states produced approximately one fifth of the corn of the United States. In 1910, they produced one third of it. The fact that the work was not carried on for the purposes of investigation made it difficult to secure accurate figures; but data were collected from about 12,000 demonstrators, representing an acreage in cotton of about 85,000 acres. The total number of farmers instructed in 1911 was 89,764, of whom 26,227 were classed as demonstrators and were visited at least once every thirty days; 63,537 were classed as coöperators, and their farms were visited occasionally or not at all, but they consulted the agent personally and received printed instructions.[1]

Bulletin service. — Another branch of extension work, although not always so regarded, is the bulletin service of the different state and federal departments. According to a German authority, the United States Government is the greatest publisher of educational literature in the world. It is a well-known fact that the investigator in any line of educational effort is able to obtain greater assistance from these government publications than from any other source. It is estimated that more than 24,000,000 copies of bulletins and circulars are issued annually by the experiment stations and the United States Department of Agriculture. The Bureau of Education also issues many bulletins, and in 1912 about one quarter of these were on topics directly connected with agricultural education.

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[1] Demonstration Work on Southern Farms. Farmers' Bulletin 422. United States Department of Agriculture.

There is, of course, a wide difference between issuing bulletins and getting them read, and general statistics are not available to show the extent to which they are used. In a survey comprising parts of Missouri, Alabama, and Georgia, 1001 farmers were interviewed, and it was found that 417, or 41.7 per cent, received bulletins. Of these 331, or 79.4 per cent, read them; and of these again, 148, or 44.7 per cent, made practical application of the information obtained from them. Of the 1001 farmers visited, 454, or 45.4 per cent, took farm papers.

As a rule, these bulletins are written in simple language, but it is a question whether for many agricultural districts something simpler still is not required. Plain directions as to what to do and how to do it seem to be needed. The "why" may be left to a later stage. If directions were given in a series of numbered paragraphs and not in the form of a connected narrative, they would be more easily followed by a larger number.

Demonstration trains. — The only other form of extension work that space will allow us to deal with is the demonstration train. When first introduced, these trains were believed by many to be an absurd fad, and it was freely predicted that they would not last. It is found, however, in states in which trains have been operated for ten years, that when the second, third, and fourth trains go over the road they are met each time by larger and more interested audiences, and, so far as can be judged, they accomplish greater results than the first train. These trains have successfully aroused the interest of the people. While it cannot be their mission to give formal instruction or to convey newly discovered facts, except in a very limited way, they can show how the old facts may be applied so as to increase production.

Perhaps one of the most unique and elaborate trains that have ever been fitted up was made possible through the coöperation of the Northern Pacific Railway Company and the Agricultural College of North Dakota. The train consisted of twelve coaches. It carried five types of live stock, a model poultry-house with all accessories, one coach filled with labor-saving devices and sanitary appliances for the farm home, machinery for grain-cleaning and for spraying, and other equipment. "In short, it was the agricultural college on wheels for three weeks, with twenty-seven professors and instructors in attendance to explain the meaning and purpose of the exhibits, as the more than 60,000 people passed through the train while on its journey through the state." This train was accompanied by twelve newspaper correspondents so that the benefits of the instruction were spread over a much wider area than that actually traversed by the train.

The Maryland Agricultural College was probably the first to purchase a car of its own for this work. This car has been fitted up with living quarters for the instructional staff, and has a lecture-room fitted with a blackboard, stereopticon, and other apparatus. A trip is taken each year during the month of May, with stops of about three days in each place, and forenoon and evening sessions of about two hours each are held. This probably accomplishes more toward the definite improvement of agricultural methods than some of the more spectacular efforts.

THE OUTLOOK FOR FUTURE DEVELOPMENT

The Smith-Lever bill, passed by the Congress of the United States in 1914, may reasonably be expected to give a great impetus to all kinds of extension service. This bill, which has previously been referred to, provides large supplementary funds from the federal treasury to encourage coöperative extension work in the several states.

Finally, it may be said that the most urgent need is the organization and systematization of extension methods. There should be general agreement as to the work that the several agencies can do and the methods of doing it;

and new plans will need to be devised to reach the large number of farmers who have not yet been informed of the improved methods of farming that are being rapidly developed.

CHAPTER XI

INSTITUTES AND OTHER HELPS FOR THE ADULT FARMER

The farmers' institute, as we know it to-day, is the product of the last twenty-five or thirty years. It is an example of an organization beginning locally and in a small way, and gradually spreading throughout the country. It was not planned; it grew. In several states the agricultural societies first promoted the farmers' institute, and later the agricultural colleges adopted it as a form of extension service. In the earliest agricultural societies the promoters seem to have had the idea of traveling lecturers. In 1842 or 1843, such lectures were organized by the New York State Agricultural Society, and it is probable that from these and similar lectures the organization of farmers' institutes grew.

THE RISE OF THE INSTITUTE MOVEMENT

The first legal warrant for carrying instruction to farmers outside of any educational institution was probably the Michigan law of 1861, which said: "The State Board of Agriculture may institute winter courses of lectures for others than students of the institution under necessary rules and regulations." In 1869–70, itinerant meetings were held in Iowa. In 1871, an account of farmers' institutes was published in the report of the Iowa Agricultural College, in which it was said that "the experiment of holding farmers' institutes in different localities in the state, for the purpose of giving farm lectures on prominent topics, was tried last winter with very gratifying success. Institutes lasting three days were held at Cedar Falls, Council

Bluffs, Washington, and Muscadine, at each of which points we found an enthusiastic gathering of farmers."

The movement rapidly spread to other states. The plan of having an institute in each county originated in Ohio. Practically every state and province in North America is now provided with well-organized farmers' institutes, partly under government direction and control and partly under local auspices.

In Canada, the movement started at the agricultural college at Guelph. Members of the staff were sent out by twos, and later two practical farmers were added. Later, one professor and one farmer were sent together. The work grew to such proportions that a special superintendent was appointed under the Department of Agriculture by the Provincial Government, and the work has since remained under his charge. The Ontario department makes an annual grant of $25 to each institute, and supplies speakers for at least one series of meetings.

THE EXTENT OF THE INSTITUTE MOVEMENT

The institute movement is now widely spread throughout North America, and the number of persons who attend the meetings is large; but great as it is, the attendance is only a small proportion of what it might be.

> There are tens of thousands of farmers who do not take agricultural papers; probably not one farmer in twenty-five ever attends a farmers' institute meeting. There is a comparatively small amount of consecutive study of agricultural literature among farmers. There is need of more effectively reaching the young farmer at home and in the rural schools. As a plain matter of fact, we are not to-day, either directly or indirectly, reaching the great mass of the tillers of the soil with educational processes that may be regarded as even fairly efficient.[1]

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[1] Association of American Agricultural Colleges and Experiment Stations, 22nd Annual Convention. Bulletin 212. United States Department of Agriculture.

The work of an institution can never be judged by numbers alone. The only adequate test is the number of farmers who put into actual practice improved methods of farming as a result of their attendance at the meetings. A large number may attend a meeting to listen to an entertaining speaker, and yet the resulting change in agricultural practice be very small. A small number of persons permanently benefited in a large number of places is better than a large number of persons in a few localities, because the larger number of localities enables the improvement to be spread over a wider area.

THE NATURE AND ORGANIZATION OF FARMERS' INSTITUTES

Farmers' institutes have done a large work, particularly in developing interest in agricultural affairs. Their work has been chiefly of an inspirational order. It may be said to include the following objects: —

1. To give information by calling attention to the laws of nature, in accordance with which the farmer must work.
2. To kindle the desire for more systematic knowledge than the institute can afford, and to point out the sources of such knowledge.
3. To give inspiration by citing examples of good methods, by setting forth true ideals and proper goals, and by emphasizing the possibilities of life in the open country.
4. To begin the training of men and women for local leadership and greater public service.
5. To inaugurate movements for the improvement of farming and country life, for better seed, better live-stock, better homes, better schools, and better churches.
6. To pave the way for effective, intelligent coöperation by breaking down the narrow individualism of the farmer and by bringing him into contact with his fellows.

The farmers' institute is a mobile and temporary institution. It may be, and often is, convened in a day and lasts as long. Notwithstanding its impromptu and ephemeral character, however, it is probable that it will continue to be an important agency in the education of the adult farmer.

THE FARMERS' INSTITUTE LECTURER

Much discussion has been given to the problem of the type of speaker best fitted for institute work. It is an open question whether the term "lecturer" should be applied to this speaker, for the farmer requires teaching rather than lecturing. The teacher of the farmers' institute has great responsibilities, arising both from the nature of the problems with which he deals, and from the character of the audience he addresses. His audience is of a difficult kind. It is composed of men and women of maturity who are experienced farmers, and many of them know as much of the subject on which he is speaking as he does himself. They are reserved, conservative, and loath to change long-established methods.

Whatever other education the speaker may have had, he must have had the practical management of a farm, including the paying of the bills. The old type of speaker had to teach the farmer what the latter did not know. Now he has to influence the farmer to do what in many cases the farmer knows he ought to do, and indicate why and how it should be done. Bailey says: —

> We must develop a new kind of institute man, unlike the college professor on the one hand and the so-called practical farmer on the other. This man must be trained for this kind of work as carefully as other men are trained to be chemists or engineers. He should live for at least part of the year on the land, and he should also be connected with an institution that can keep him in touch with the best and the latest information. In other words, he should be a farmer as well as a student, and a student as well as a farmer.

The qualifications demanded of the institute speaker are probably more exacting than those required from other public speakers. He must be both instructive and entertaining. On this rock many speakers have split. The farmers' institute must not be turned into a vaudeville show, neither must it be given a chapter from a scientific treatise. The institute in its inception was intended largely to entertain the farmer. The program had to contain something that would bring him out, even if from curiosity only; but that time is rapidly passing, and the farmer who now attends does so quite generally for the purpose of getting something to apply on his own farm.

Some of the qualifications needed in the institute speaker are as follows: —

(*a*) *Reputation in his own community.* — No speaker whose standing at home will not bear the most rigid investigation should ever be allowed on the institute platform. Unless he is a successful farmer, his work on the platform will not be effective. In the State of Michigan, persons suggested as speakers are visited by one of the professors of the agricultural college, and unless their work and farms are found to be more than ordinary they are not invited. When the speaker is known to be a successful farmer, he is listened to with respect and confidence.

(*b*) *Scientific training.* — An individual with a thorough scientific training in agriculture has a decided advantage over the man not so trained, and, other things being equal, should always be chosen.

(*c*) *Ability to teach.* — A man may possess the two previously mentioned qualifications and yet lack this essential. It is but a truism to say that many men have knowledge which they are unable to impart. Ability to teach, not lecture, in a forceful manner is one of the main essentials in the institute speaker.

(*d*) *Tact.* — Everybody knows what tact is, but few have had the courage to define it. The institute speaker, unlike the college professor, has for his audience men who are already battling with the problems of life, and in many instances they have a knowledge of local conditions of which the speaker is quite probably ignorant. Under these circumstances the pupils may be better able to teach than the teacher. The speaker, if he possesses tact, will be able to draw this experience from his audience and thus make a happy combination of his scientific knowledge and their local experience.

(*e*) *General qualities.* — A pleasing personality, a good voice, an attractive platform appearance, and congeniality are also desirable.

METHOD OF CHOOSING INSTITUTE LECTURERS

Political considerations should never influence the choice of a speaker, nor should the institute platform be available to those who have a product to advertise or sell. Farmers in the past, in too many instances, have been loaded up with subscription books they did not want and machines for which they had no economic use. In some of the countries of Europe the speakers are chosen by competitive examination; and it has been proposed to adopt the method in this country. While this plan might work successfully, there are many things that cannot be tested by an examination. The following amusing account is given of a method once tried in New York State to select speakers for the institutes:[1] —

> The pressure for positions was so urgent that the director conceived the plan of having the applicants meet at our state experiment station on a given day, and there deliver their addresses before the dean of the agricultural college, the directors of farmers' institutes, and older lecturers on the force. About eight victims came out to the slaughter. Each in his turn delivered his address and afterwards was duly ques-

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[1] American Association of Farmers' Institute Workers. Proceedings of 15th Annual Meeting. Bulletin 288. United States Department of Agriculture.

> tioned by those in attendance. The last speaker proved to be a genius, if not a good farmer, in his individual line. He likened the director who had called for this test to an ancient monarch, who, wishing a day of sport, had invited several of his subordinates to witness a contest between some of his innocent subjects and wild beasts. After the spectators had taken their seats in a secure position the victims were brought out, and, one by one, in their turn, were thrown into the arena below, only to be destroyed. This speaker, after referring to himself as the last victim of the day, proceeded with his address, which was as ingenious as the introduction.
>
> The hearers were convulsed with laughter during the entire time he was speaking, notwithstanding their guilty feeling on account of being parties to such a performance. The director could appreciate the last speaker more than any other of his hearers, for he held in his pocket at the time a letter from the farmer's wife in which she protested vigorously against her husband's employment as an institute lecturer, saying he was a miserable failure as a farmer, and but for her efforts the family would all go to the poorhouse. The result of this test was that not one of the applicants was employed for institute work, and the farce has never been repeated.

The institute lectureship must be raised to the dignity of a permanent profession, and the speakers should be employed during the greater part of the year. They should be paid for their services the equivalent of what is paid in colleges and universities for work requiring talent and training of a similar kind. Only by these means will men be induced adequately to prepare themselves. So long as the practice is to employ institute speakers for only a few weeks in the year, so long will their work be largely ineffective, and fail to accomplish much radical improvement in farming operations.

LOCALIZATION OF INSTITUTE WORK

There is a marked tendency to centralize institute work. One or two large meetings a year may be necessary to "enthuse" the people, but for purposes of definite instruction they are useless. When these conventions are held in central places, they are most likely to attract those who are already progressive. The problem to-day is the apathetic and the indifferent farmer, the ninety-six per cent who do not at present attend institute meetings. The purpose should be to take information direct to the doors of the men who have not yet voluntarily come under the influence of the institutes. The only way to reach these people is to take the institute to them. The aim must be to reach the man who is in most need of assistance, and for this purpose a series of small meetings should be held in out-of-the-way places.

The institutes should be managed largely by the people in the locality. In the past there has probably been too much state control. As a rule, the best results are obtained by local coöperation, local enthusiasm, and local management. Owing to the importance of the farmer's work to the welfare of the nation, the State has largely assumed the financial responsibility for the institutes and the farmer has been getting something for nothing. The thing most valued is that which comes through conscious effort. People take pride in an institution which is an expression, in part at least, of their own work. In all kinds of activity for agricultural betterment it is found that local and individual work is most effective; that at least one person who knows the community conditions and needs must act as local agent; that this agent must be, whenever possible, a trained agriculturist; and that community investment is desirable.

In the Province of Ontario, where the organization of farmers' institutes has received much attention, each local association is empowered to charge twenty-five cents for each member who wishes to affiliate. In return for this annual payment, the institute guarantees at least six meetings in the electoral district during the year. In some cases there are as many as twelve or fifteen meetings. In addition to this, the contributors receive by mail the report of the superintendent of farmers' institutes, containing the addresses of the speakers during the preceding year. They also receive the various reports of the Department of Agriculture, such as the reports of the dairymen's association, the fruit-growers' association, the good-roads association, and the like.

THE CHARACTER OF THE PROGRAM

Practically every farmers' institute has attempted to do too much in the time at its disposal. Too many subjects have been treated, and consequently no single one has been dealt with comprehensively. The answer to this criticism has been that the mission of the institute is not so much the systematic teaching of agriculture as the arousing of interest in agriculture and the inspiring of men and women with a desire for country life and country occupations. But the purpose of public institutions changes with the lapse of years, and though this may have been the necessary purpose in years gone by, that purpose should no longer be considered primary. The primary purpose should now be to give definite information along certain specified lines — information which can at once be put to practical application on the farm. This cannot be done with the multiplicity of subjects that now occupy the average institute program.

It is gratifying to note a growing tendency on the part of those who have the direction of the institutes to limit the work of any one session, or any one day, to some definite topic. It is far more profitable, and will result in much better practice, to deal intensively with some one topic of importance to the locality than to spend the time in a superficial manner on several topics. It is largely owing to this superficiality that the work of the institutes has not had results commensurate with the efforts that have been put forth.

There is a decided tendency in many institutes to lay too much stress on amusements or entertainments. In every institute continuing for more than one day, it is an excellent feature to close the proceedings with a concert when one of high order can be arranged. It should be made the means of acquainting the people with the best music, the best literature, and the best pictures, and the ordinary vaudeville features should be rigidly excluded. The possibilities of raising the ideals of country life through work of this character are almost unlimited and should be utilized to their fullest extent.

The organization of the forces. — The general organization of the institute forces should be perfected. Even in Ontario, where the institutes have been largely developed, the promoters are not satisfied with the results and are constantly striving for better things. This province is divided into ninety-four districts, corresponding somewhat to the electoral districts of the United States. In each district there is a permanent farmers' institute, with regular officers and a board of directors, one at least representing each township of the district. If proper care is exercised in the choice of the directors, each municipality will thus have an active agent whose services can be called upon to promote the institute in his particular locality.

Each institute, according to the Ontario system, must hold at least six meetings during the year. The place of meeting is left to the directors. The meetings may be held in one center, if desired, or the place of meeting may be changed as frequently as is thought advisable. From the first to the twentieth of June, each of the societies holds its annual meeting. This is generally of a business character, although in many instances a speaker is sent from the Department of Agriculture. At this time the business of the year is transacted and the reports are sent to the superintendent of institutes. These reports must show the officers and directors, a list of the meetings held during the year, a list of the meetings it is desired to arrange for the next fall, winter, and spring, and the moneys received and expended. Each local society receives twenty-five dollars from the government, contingent upon a like amount being contributed by the local county council. In addition, each member pays twenty-five cents. The central department insists upon proper advertisement. A program must be printed at least one week before the meeting, and copies must be sent to every school-teacher and be well distributed throughout the neighborhood.

During the month of June, each institute, or sometimes three or four acting in conjunction, runs an excursion to the agricultural college, and every year more than 50,000 farmers thus take the opportunity of seeing the best live-stock, agricultural appliances, and methods of cultivation about which they may have heard at the institute meetings. The farmers are guided through the buildings and grounds by the professors of the college, and full explanations of the various features and enterprises are given. The Ontario plan of organization seems to meet the needs of the situation. Local control and initiative are secured, and the whole work is under the direction of an officer of the state.

The length of the institute session. — In the United States, the length of the institute sessions varies from one to three days in the following proportion: 70.1 per cent last one day, 26.5 per cent last two days, and 3.4 per cent continue three or more days. The average number of sessions held at each institute is 2.6. In districts where the farms are widely scattered and where the people are unaccustomed to attend, the one-day meetings are necessary. They are, however, wasteful of time and money. They incur the expenditure of much time for the minimum of results. They are probably necessary as a preliminary step to the establishment of the two-day institutes, which are relatively much more economical. The three-day institute is the one in which the teacher can give the highest grade of instruction and do the most real good. It does not necessitate any more travel than the one-day institute. The instruction is more definite, and while it reaches fewer farmers, this is probably more than compensated for by the fact that the persons who make the necessary sacrifice of time and money to attend during the three days are more likely to put in practice what is taught.

In arranging a program for a three-days institute the subjects should be connected so that the instruction for the three days will be complete as far as it goes; but each day's work should be complete in itself, so that those who are able to attend only one day will be able to acquire some definite knowledge. The gradual departure of the farmers will leave in attendance on the third day those who are capable of undertaking further study, and these should not be lost sight of during the time between the meetings. Particular care should be taken to supply them with bulletins from the college and experiment stations. These are the people, also, who may be induced to attend a movable school, or to take short courses at the college or high school.

It seems probable that the three types of institutes will continue to be held. The needs and economic conditions of the districts and the character of the farmers inhabiting them will determine which of the types is best in any particular community.

The methods of teaching to be adopted. — Every address delivered from the institute platform should be carefully prepared. Too often the addresses show that little effort has been made in this direction. Those who attend should be encouraged to take notes. In the State of Michigan note-books are distributed, and every one is urged to take notes of the proceedings. Perhaps a better method would be the distribution of a printed synopsis of the lectures in note form, with space in the margins for additional notes.

If these were printed on cards and properly punched, they could be filed together, and would soon become a valuable collection of agricultural information. Charts, models, experiments, and blackboard illustrations should be employed when possible. The States of Louisiana, Oklahoma, and Minnesota report the successful use of motion pictures. In the case of pictures of all kinds, the "before" and "after" method should be used.

No other institution has yet been devised that could have done the work that has been accomplished by the farmers' institute, and with reorganization along the lines suggested it will continue to reach those in need of instruction and to exert a beneficial influence on the practice of farming.

FARMERS' CLUBS

In addition to the formal institute, small clubs, consisting of from eight to twelve families joined together for social, educational, and business purposes, might be organized. Such clubs would render it possible to make a closer study of any one topic, to carry out practical farm experiments, to unite for such purposes as buying and selling, to meet for social enjoyment, and in general to exert a beneficial influence throughout the neighborhood. These clubs should be affiliated with one another and with the institute organization.

Such a system would render it possible to reach most of the farming people of a state, and agricultural information could be disseminated regularly and topics of importance suggested for discussion simultaneously at all the institutes and clubs held throughout the state. Care should be taken that these clubs do not become vehicles for gossip, the discussion of party politics, or the accentuation of rural prejudices. They should undertake some definite work, such as breeding and care of horses and stock, and seed-judging, advocacy of good roads, or better schools. Twenty men organized in a locality for these and other purposes might in a short time revolutionize the locality, and accomplish more than the large formal institute meetings from which they spring.

THE GRANGE

Almost from the beginning of agriculture in this country there have been farmers' organizations of one kind or another, but prior to 1870 there did not exist in the United States, a single farmers' organization in the sense in which the term is now understood. The farmers themselves have always been the last to see the necessity for combination, and many do not see it yet. The first societies were formed as a result of the far-sighted vision of statesmen who saw that agriculture was to be the economic basis of the new nation, rather than from any expression of opinion from the farmers themselves as to the need for such organization.

The early history of the grange. — Probably the best known farmers' organization and the one that has had the widest influence is the Grange, or the Patrons of Husbandry. Although this organization has, with periods of depression, been in operation since 1867, and it stands in the forefront to-day as the representative of agricultural interests in the United States, thousands of farmers as yet know nothing of it.

In 1866, Oliver Kelly, a native of Boston who had settled in Minnesota, was appointed by the national government to make a tour of inspection through the devastated South for the purpose of securing adequate knowledge of the conditions then existing and the resources available for reconstruction and betterment. As a result of this tour, he was convinced that the only means by which harmony could be restored was by agricultural coöperation. With six other persons whom he had interested, he drew up the grange organization. It was intended to advance the cause of education among farmers and to cultivate a spirit of peace and brotherhood between the North and the South. There is now no need for the second purpose, but the first is still the basis on which the grange conducts its work.

Early in the history of the order, a "Declaration of Independence" was drawn up, which is still in force. Notwithstanding the great amount of material on agricultural education and rural uplift that has been published in recent years, this document has not been surpassed in its clear and forceful enunciation of vital principles, and it might well be adopted as the charter and guide of all workers in the rural field. The first grange was organized in 1868, at Fredonia, Chautauqua County, New York, and it is still in active operation. By 1873, more than 27,000 granges had been established, with a membership of more than half a million.

This mushroom-like growth was nearly fatal to the future usefulness of the organization. A large number of those who joined entirely misconceived the purposes for which the organization had been formed. They sought for immediate financial gain and joined for "what there was in it." Others expected to make it a ladder by which they could climb to political office and distinction. The order was unable to assimilate the rapid increase in membership, to educate its members as to its true purpose, and to train them in patience and self-control in their efforts to achieve that purpose. As a result, hundreds of the granges established at this time failed, and the influence of these failures continues to the present day. Many persons are under the impression that the grange is dead. But the grange survived the set-back, and now has an established position among farmers' societies and educational agencies.

The organization of the grange. — The unit of organization is the local grange, which is supposed to include one township. Each local grange meets at least twice a month.

These local granges often organize into a larger unit known as the "Pomona grange," which must meet at least quarterly. These Pomona granges, in turn, are affiliated with the state grange, and this, again, with the national grange, which is the official head of the whole organization. The annual sessions of the national grange generally last about ten days. There has been organized a juvenile grange, which has great promise. The grange, like other secret orders, has a ritual which is said to be "a beautiful and impressive ceremony, permeated throughout by an exalted religious spirit and a strong love of nature."

The work of the grange. — By its local units and affiliations, the grange can easily cover the whole state, and it has successfully established intimate relationships among its branches. "To enumerate the achievements of the grange would be to recall the progress of agriculture during the last third of a century." Some of the measures that owe their origin and development, at least in part, to grange influence are, the National Department of Agriculture, the State agricultural colleges and experiment stations, pure-food laws, rural free delivery, and the Interstate Commerce Commission. The grange exerts a certain amount of political influence, but of the better sort. Probably the most important function of the grange today is its educational and social work, and in this agriculture is particularly emphasized. Most state granges have standing committees on education which study the educational conditions of the state.

One of the distinctive features of the organization is that it was the first of the fraternal orders to give woman her full and proper recognition. Many of the chief officers are women. Every delegate to both the state and the national granges is a double delegate, as it were, a man and his wife or a woman and her husband constituting a delegate.

Meetings are usually held on alternate Saturday afternoons in the grange halls, which most granges possess.

Many of these halls are simply and artistically furnished with chairs, tables, rugs, bookcases, and an organ. A dining-room and a well-equipped kitchen are sometimes added. At every meeting, in addition to papers, debates, musical numbers, and the reading of the ritual, a period is allotted to open discussion.

THE DANGERS TO BE GUARDED AGAINST IN RURAL ORGANIZATIONS

All rural organizations are peculiarly liable to two dangers. The first is allowing those not interested in agriculture and rural problems to join and, in some cases, to take an active part in the management of the organization. This does not mean that membership shall be restricted to those already engaged in farming operations, but that none shall be allowed to join who are not vitally concerned in the solution of rural problems. The second danger is allowing these associations to be controlled by small cliques for their special benefit. Associations and clubs in rural districts must never be allowed to become the means by which local feuds and prejudices are perpetuated. It is true that the improvement of agricultural methods and the renovation of rural life will have to come largely through the exertions of the rural dwellers themselves. No more important agencies can be devised to accomplish these ends than the farmers' institutes, farmers' clubs, granges, and organizations of a similar kind.

THE FEDERATION OF FORCES

In addition to the organizations that have been mentioned, there are many others, all having for their object the general improvement of rural conditions. The yearbook of the United States Department of Agriculture devotes twenty-four pages to the enumeration of the various agencies that have been established for the promotion of agriculture. This list is admittedly incomplete, and it does not include a much larger number of local associations; neither does it include a large number that have been recently established to promote general country-life movements, such as home improvement, country church, school improvement, library organizations, and the like. In every state and province we have the agricultural college, the department of education, and the department of agriculture all taking a hand, sometimes in coöperation, but more often independently. Many private and semi-private corporations are also taking an active part.

The need for federation. — There is urgent need for the federation of all rural forces. On this point the Country Life Commission made a recommendation for "the holding of local, state, and even national conferences on rural progress, designed to unite the interests of educational organizations into one forward movement for the rebuilding of country life. Rural teachers, librarians, clergymen, editors, physicians, and others may well unite with farmers in studying and discussing rural questions in all their aspects. We must in some way unite all interests, all organizations, all individuals having any interest in country life in one great campaign for rural progress."

Agricultural organization is much more difficult than organization in other industries. The farmer has to perform many functions which in the industrial world are performed by several men. He is both employer and employee. His training has been along individualistic lines. It is difficult for him to regard himself as a coöperator; he still regards himself as a competitor. Notwithstanding all the difficulties that lie in the path, there is urgent necessity for the effective federation of all rural forces.

The form that federation may take. — Agricultural interests are too numerous and diverse to allow of any one single object being made the basis of a national organization. The farmers of the country cannot be organized into a homogeneous nation-wide association. When a number of farmers in a certain restricted locality have a definite object in view, they usually have no difficulty in organizing an association for the accomplishment of that object. But this does not necessarily mean that these associations need remain isolated. In the industrial world there is a multitude of trades, and this condition may be compared with the different branches of agriculture. It has not been found impossible to complete a perfect federation of the workers in the industries, and it should not be impossible to do the same for agriculture.

The American Federation of Labor has shown the way in which this can be done. Each trade in each locality has its separate union, and these unions are federated into a complete whole. Each locality has the power of self-government and is independent so far as its local interests and objects are concerned. But when the necessity for any combined movement, either state, national, or international, arises, the organization is ready and in many cases has been able to do the work required. If this plan of organization be followed, it is not necessary, nor perhaps desirable, that the objects of the Federation of Labor be too closely followed.

Another point to be considered is that the federation shall have for its object the benefit of the whole country and not be for the purpose of establishing monopolies. This does not mean that the organization must be altruistic or philanthropic: it must be decidedly self-interested or it will fail to accomplish its purpose; but in the prosecution of this purpose, economic methods, rather than uneconomic, should be adopted so that the whole country may be benefited.

A state plan of federation. — At a meeting of the New York State Agricultural Society, Dean Bailey suggested that the State legislature should define the policy of the State in reference to agricultural education and rural affairs, in order that the whole of the work might be coördinated and a definite plan projected. He laid down the following principles: —

1. The State should define its policy in the development of country life.

2. It should name the classes of institutions that it proposes to utilize in the execution of this policy.

3. It should define the functions of the different classes of institutions.

4. It should state the organic relationship that should exist between them.

Although these suggestions were made having largely in mind educational institutions, they can be applied with great benefit to general rural organization.

IN GENERAL

This discussion may be summed up by saying that with the existence of so many independent and unrelated organizations there is the greatest danger of waste of money, time, and effort; but owing to the many different phases of the problem, it is impossible to accomplish the work without many organizations. In order to achieve the best results, an agreement and division of labor among the various organizations is necessary. When this has been brought about they can be federated, first into state and then into national bodies, thus combining unity of action and concentration of power with local independence, autonomy, and direction.

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CHAPTER XII

THE WOMAN ON THE FARM

THE work of the woman on the farm is much more important than our systems of education have generally admitted. The part played by the farmer's wife in the development of agriculture is much greater than the part played by the mechanic's wife in the industry in which her husband is engaged. In other industries the workingman does his work in the factory or the shop. He does not take it to his home, and his wife takes no part in it. The farmer, on the contrary, carries on his work at his home, which is the headquarters of his business. His wife not only conducts the household, but is generally expected to take some part, also, in the business. On the way she conducts the household and the influence she exerts depend not only the comfort of the home and the health and morals of its inmates, but in a large measure the success of the agricultural operations also. For these and many other reasons, the education of the farmer's wife and daughter should receive as serious attention as that of his son; for "if you educate a boy you educate a man, but if you educate a girl you educate a whole family."

> Perhaps the sorest spot in the rural problem is the lot of the neglected farm wife and mother. Even where agricultural prosperity is indicated by great barns filled with plenty, often a dilapidated farmhouse nearly devoid of beauty, comfort, or convenience, measures the utter disregard of the housewife's lot. Money is freely spent when new machinery is needed on the farm, or another fifty-acre piece is added after a prosperous season, but seldom a thought of the needs of the kitchen. While the men of the farm ride the sulky plough or the riding harrow of the twentieth century, the women have neither a washing-machine nor an indoor pump,

> to say nothing of running water, sanitary plumbing, or a bath-tub. Sometimes the drudgery of the farm is endured by the mother uncomplainingly, or even contentedly; but the daughter recoils from it with a growing discontent.[1]

If a person is to be educated toward vocational efficiency, the start must be made when young, that is, when he or she is in the elementary school. The great problem, how to keep the boy on the farm, is troubling many, but it would become much less a problem if we could devise ways and means of keeping the girl on the farm. The girls are even more dissatisfied with farm life than the boys, and are leaving in greater numbers. The lessened proportion of women in the country homes of Canada was one of the startling surprises of the last census.

THE KIND OF EDUCATION REQUIRED BY THE RURAL GIRL

The Tenth International Congress of Agriculture, meeting at Ghent in June, 1913, took into consideration the rural exodus, and came to the conclusion that one of the best means of checking migration would be to offer to young women an education fitting them to become competent housewives, capable of intelligently and affectionately assisting their husbands. A resolution was passed to the effect that "the farm woman must be conscious of the mission entrusted to her in the education of robust children healthy in mind and body, provided with a sound education, animated with sentiments giving a serious idea of life; children, finally, who understand the beauty of country life and consider the cultivation of the soil the noblest profession of a free man."

The right education of the woman is all-important from another point of view. Reference has already been made to the extent to which women are becoming the educators of youth. If their education be not of the right kind, and if a large number of them cannot be trained to be rural-minded, then the education given in the rural schools will continue to direct the thoughts of the pupils toward the city. If any girl leaves the common school or the rural high school without rural bias, she will never acquire it later. From no matter what angle the question is viewed, it all comes back to the rural school. It is therefore in order to inquire how the necessary training can be given in that institution.

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[1] Fiske, G. Walter. *The Challenge of the Country.*

THE WORK FOR THE FARM GIRL IN THE RURAL ELEMENTARY SCHOOL

The elementary household occupations should be used, as is nature-study, to train the faculty of observation. In many schools, owing to the absence of equipment, it is not possible to give formal instruction in cookery, even if the girls were old enough to take it; but they can be taught about their homes and their home activities. Lessons can be given on neatness, cleanliness, and tidiness. Elementary conceptions of the need for ventilation and pure air and plenty of sunlight may be given and be illustrated with simple experiments that every child will be able to understand. The girls can be questioned about what to do to help mother, and school-credit can be given for many forms of light work around the home and in the garden and poultry-house. They may also be taught in the schoolroom how to sew and knit, how to make doll's clothes, which are their own in miniature, and small work-bags, tea-towels, or dustcloths, simple patching and darning, curtains for the schoolroom windows, and the like. Instruction may proceed along these lines, with practically no equipment beyond that which every girl can bring from her own home.

The enthusiastic rural teacher will not stop here, nor will she allow the lack of equipment to prove an insuperable barrier. In some schools the older girls conduct cooking experiments on the top of the stove. An expenditure of five dollars will cover the cost of the utensils needed. A large dry-goods box may be fitted with a shelf by the older boys, and this may be made to serve both as a table and as a cupboard. A coal-oil or alcohol stove may be placed on the top, and with a small portable oven it will be sufficient for the cooking of many foods. A drop-down shelf hinged to the wall will provide additional table-room, or boards may be placed on the desk-tops and stored away when not in use. Of course, all these devices are makeshifts, but with them valuable lessons may be taught; and in thousands of cases it is either such equipment or nothing. The ideal to be aimed at is a special room for this work; but how many rural schools have, or ever will have, such conveniences? With the simple equipment above outlined, hot cocoa may be made for the children who bring their lunches to school, or light refreshments may be served to parents when they visit the school.

HOUSEHOLD SCIENCE IN THE HOME

Another method that has been adopted with much success is the use of the home for practical work. This plan has the additional advantage of bringing the school and the home into much closer contact. When a trained rural-school supervisor is employed by the state or the county, she will naturally undertake the organization of this work and the teacher will carry it on under her direction; but it can be handled quite satisfactorily by the regular teacher. The plan is as follows: every Friday afternoon, or at some other convenient period, the teacher assigns the work to be done at home. In the case of cooking, clear and concise instructions should be given concerning materials, quantities, method, and measurements. The directions on the blackboard should be placed in the note-books. A lesson is taken in the schoolroom and full explanations given. In some cases these directions have been printed on properly punched cards, so that at the end of the year each girl has a useful collection of recipes and plans every one of which she has worked out and understands. Before commencing work of this character, the teacher should visit the homes, explain the plan to the parents, and seek their earnest coöperation. The parents should be asked to fill up a previously prepared form and certify to the work done at home each week.

The success of this home-work depends, first, on the willingness of the pupil to accept responsibility, and, second, on the honest and hearty coöperation of the parent. No credit should be given for work that is not done regularly. Each kind of work should be repeated a sufficient number of times to give skill and facility in its performance. The girls may also take an active part in the school gardening, and if a vegetable plot forms part of the garden the vegetables grown should be used for cooking lessons.

In the consolidated school, the plans above outlined will not be necessary, although it is always advisable to keep the home connection as close as possible. Every consolidated school worthy of its name will have its properly equipped household science room, and there the work will be taken under proper instruction and in a much more satisfactory manner. Home nursing and laundry work may also be taken. Such a school should have on its staff a fully trained and well-qualified household science teacher, who will be able to help and advise the older girls in many matters not open to a younger and less experienced teacher.

HOME HELPS FOR THE GIRLS NOT ATTENDING SCHOOL

For girls not in attendance at high schools, some of the various clubs afford a most useful form of training. These, however, in many cases leave the girls too much to their own devices and do not give the amount of instruction that is desirable. Probably one of the best methods of doing this work is an organization similar to that of the Nebraska State Education Department. This is known as the "Home Experiment Department," and has enrolled in it over 3000 girls. The plan provides for definite work, in which instruction is given and on which reports are made monthly. Each month from April to November every member receives recipes and definite instructions. The work includes some of the best methods in cooking and serving nutritious foods, and the cooking, canning, and preserving of fruits in season. Instruction is given in butter-making, and directions are sent out concerning the care of milk and cream, churning cream, and finishing and packing butter. Blanks are sent for reporting the different branches included in the work. The work in sewing is practical, and the articles made such as are necessary and useful. The department furnishes patterns and instructions for hemming towels, making a sewing apron, a garden hat, household linen, and the like. Flower-culture also receives attention.

This work is now conducted under the direction of the State Agricultural College. The present State Superintendent of Education for Nebraska, says: —

> These clubs will, within a decade, have so changed the ideal of family life in Nebraska that the boys and girls will hail with delight the time when the preparatory stage of school life is over, and a nice farm and farm home is the reward for the preparation made under the club movement in Nebraska. We will then have better schools, more happy farm homes, and the ideals of farm life will be of such high standard that Nebraska will rise up and call Professor E. C. Bishop [the man who inaugurated the clubs] "a man who was worth while."

One of the functions of the agricultural high school may well be the initiation of work of this character for girls in the neighborhood who are not able to take regular high-school courses. In addition, a course of lessons on some definite topic of household management can be given on one half-day a week, for ten or more weeks. These courses should be intensive and definitely vocational in character.

SPECIAL HIGH-SCHOOL WORK FOR FARM GIRLS

Every high school that has an agricultural course and every agricultural high school should provide a course for girls as extensive in character as that offered for boys. For more than eighty per cent of the girls, home-making will be the principal vocation. There is no other vocation in which so large a proportion of the female population will be engaged.

In the schools thus far established, there is one subject of vital importance to the future of the nation that has hitherto been neglected, namely, the care and nurture of children. This, the most important obligation in the world, is left to unskilled and ignorant labor. One sixth of the children born die within one year of their birth, and one third of them within five years. A large percentage of this death-rate is due to the ignorance of the mother.

> Too often it is found that the life of the first-born is sacrificed during the early months of its life by reason of the lack of knowledge on the part of the parents in the care necessary in the feeding of this valuable portion of our population, and a lack of knowledge as to the care in toilet and personal hygiene of these dear little infants. The same attention given by the parents to bringing up the baby as is given by them to the rearing of young chickens or the thorough-bred calf, particularly as regards feeding, would be followed by equally good results.
>
> The people have yet to realize the importance of this branch of education, and that no false modesty must be permitted to exist in regard to it. The study of the infant life is of more importance than the animal and vegetable life, or the making of butter, the baking of bread, and the all-devoured American pie. The young women of the country must be taught how to nurse, feed, and clothe the baby, and be shown how much more important to the state is this "delicate subject" than the feeding, fondling, and toilet of the pet dog or cat, or the fascination associated with bridge whist or other social fads.[1]

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[1] Dr. Hodgetts, Report of Ontario Board of Health. Toronto.

COLLEGE COURSES FOR WOMEN

The higher education of women along the lines of home economics has not made so much progress as secondary education, or even elementary education. The reason for this is that until comparatively recently it was not generally recognized that women needed higher education; and even when recognized, it was not conceded that higher education was to be found in or culture derived from subjects that pertain to the management of a household. A woman who holds a professorship in a classical institution uses these startling words in an article written recently for the Atlantic Monthly: —

> There is absolutely nothing in domestic duties themselves, or in any form of manual labor, which develops the mind or broadens or elevates the character. The idea that every woman needs practical instruction in housekeeping as a part of her education is as absurd as would be the claim that every man needs to be taught in the school to plant corn or milk a cow. If there accrues to women as much mental and physical and spiritual development from learning to do well all things connected with domestic life as from the study of books, why I ask does not the fanatic on industrial education entrust the entire rearing of his children to his Irish nurse-girl. Why does he not marry his cook?

What instruction there is of college grade in home economics has been largely directed toward the training of teachers; and while the students trained in these colleges may eventually find their way into homes of their own, yet the primary purpose of their course is their equipment as teachers and not as home-makers. In many schools the emphasis is placed on the requirements of the town and city and not on those of the country. Of course the basic principles are the same in both cases, but the application of these principles often differs in the two classes of homes.

While it is desirable that the wife of the man who lives in the city should know something of her husband's business, the absence of such knowledge does not seriously handicap him in the performance of his duties. On the other hand, the wife of the farmer cannot manage her end of the business successfully without a somewhat intimate knowledge of farming operations, and in addition to the performance of her own special duties she is generally required to take some part in the actual management of the farm.

One of the best courses, although not, perhaps, of strictly college grade, is that given at the Stout Institute, Menominee, Wisconsin. The following particulars are adapted from the prospectus of the school and other sources. In 1907, after four years' work in the training of teachers, it was found that many young women did not wish to take the professional training that would fit them for the vocation of teaching, but that they did wish to be given an opportunity to acquire a practical training for the vocation of home-making, which a school of the highest grade for home-makers could offer. Out of this experience grew the course referred to. No attempt was made to secure a large attendance, owing to the fact that the work was new and the accommodations limited. In the organization of the course of study, much attention was paid to woman's chief economic function — the spending of money. Women's relation to the community as the chief purchaser of the world's goods is of the utmost importance, not only to her immediate family but to the world at large, since she establishes the standards of life and determines in no small degree the quality of commercial production in the industrial world.

The study made of this subject is a comprehensive one, and leads to the consideration of many questions of social and economic importance not usually included in the typical household science program. The course pays full attention to all the economic, scientific, artistic, and ethical factors which are involved in making a home, the term being used in the widest sense and including modern social problems and community interests. The activities around which the course centers are those connected with the provision of a suitable shelter for the family, the nutrition of the family, and suitable clothing for the comfort of the family; those that have to do with the care of dependent members of the family — children, invalids, and aged persons; and those that have to do with the social, industrial, and ethical relations of the members of the family to each other and to other members of society. Such a course is broadly cultural as well as intensely practical, and proves the argument that household science has no cultural value to be fallacious.

Speaking of a college course in household science, Dr. Balliet has said: —

> The work mapped out has as high a cultural value as the best courses now given in college, if we must keep on contrasting the cultural and the practical as if they were mutually hostile to each other. Some day, some thousands of years to come, when spectacled professors shall study American antiquities, all these common practical processes, the cooking of meat, the manufacture of clothing, etc., will be cultural subjects on which learned courses of lectures will be given, and they will be accepted as proper subjects for theses for the degree of doctor of philosophy. Somehow, according to college students, knowledge must have a certain age before it becomes culture. When it is so far behind the times that it ceases to be practical, then it becomes cultural.

WOMEN'S INSTITUTES

When the schools have done their best, there will still be a large number of women who will have to be reached by other means. When farmers' institutes were first established, no provision was made for the special education of women. They often attended the meetings and gathered what they could from the instruction given to the men. Later, special sessions were organized for the consideration of problems in which women were particularly concerned; and now a movement for separate women's institutes has become active.

Every farmers' institute should have some sessions open to women, and every women's institute should have some sessions open to men. A sharp line of division can never be drawn between the work of the man and the woman on the farm, but the time has now arrived when women should receive separate and special consideration in the plans arranged for farmers' institutes. Undoubtedly it is of decided advantage to have at least part of the meeting for mixed sessions, when women may listen to the discussion of general farm problems; it is of great value to the men, and probably in the end is helpful to the women, to have discussions of home economics, sanitation, and farm-home conveniences open to the men. There are, however, many phases of the life of farm women that are most effectively discussed in separate meetings; and generally women will enter into discussion more freely when the meetings are separate.

The man and the woman in the farm home are not being equally developed. Agricultural practice has been radically changed by scientific and mechanical discovery, but the farm home and the work of the woman have not been given the opportunity to respond to as important discoveries in the science of home-making. Many facts might be cited to prove this. The location of the home is not selected with so great care as to soil, drainage, and exposure as the barns are. There is generally a cement floor in the dairy, water in the barns, and improved machinery in the fields, before any improvement takes place in the homes. More intelligent efforts are being made to feed the cows, sheep, and pigs properly than are being directed to the food-values of the meals served to the children of the family. These facts are now being recognized in the women's institutes that are gradually being established throughout the country.

Women's institutes in Ontario. — The Province of Ontario has developed women's institutes to a much greater extent than any other state or province. The report of the work for 1914 gives the following particulars: membership, 23,689; number of meetings held, 8502; total attendance, 202,502; number of papers read or addresses delivered, 10,793; cash in hand according to last report, $18,321; members' fees, $6379; grants from the government, county councils, etc., $7049; miscellaneous receipts, $33,299; expenses for meetings, $2336; officers' salaries and expenses, $3414; postage and stationery, $1160; printing and advertising, $2191; lecturers' expenses and fees, $1857; books and periodicals, $1373. The total receipts were $65,048, and the total expenditure $42,185, leaving a balance in hand of $22,863.

Ten dollars a year is allowed by the government to each women's institute, on the condition that at least an equal sum shall be granted by the county council or the municipality in which the institute is organized, or by the local farmers' institute. There are 843 institutes in active operation throughout the province. The work is rapidly being extended to other provinces of the Dominion, largely as a result of the work in Ontario. The work of each year is closed with an annual convention held in the city of Toronto, to which each institute sends two or more delegates.

The functions of women's institutes. — Women's institutes are concerned, first, with woman's place in the home, and then with her place in the community. The institutes have recognized that the salvation of our country life lies in the home, and so have concentrated their work there. They realize that many a young man has forsaken the profession of his father and gone into town to become a tradesman or day laborer, because he does not wish to subject his wife to the hardships and drudgery he has seen his mother and sisters endure.

In the choice of speakers, as much care should be exercised as has been advised in the case of institutes for men. The speakers should have definite and exact information to convey, with equally definite plans as to how that information may be practically applied. The necessity for improvement along all lines in and around the home should be assumed, and very little time need be spent in sermonizing on that necessity. Years ago, when these institutes were first formed in Ontario, cooking demonstrations and the exchange of recipes formed the greater part of the program. These demonstrations still have an important place, but the institute to-day stands for much wider service.

The first problem to be met in the improvement of home conditions is the work of the woman herself. Most women on the farm work too hard, and a part of their work would not be necessary if it were systematized and the proper conveniences supplied. Badly planned houses mean many steps, and the lack of modern conveniences adds much to the daily tasks. In the country overloaded tables, with an overabundance of pies, cakes, preserves, and the like, are common, and this excessive cooking adds much to the daily routine. The institutes have a great field in teaching the simplification of work and of diet. The farm woman needs to be taught the difference between essentials and non-essentials, what must be done, what may be partially done, and what may be left undone.

The institutes have not confined themselves to home problems, but have entered the wider field of social service. They have been instrumental in establishing libraries, installing pianos in public halls, furnishing and maintaining rest-rooms where women may be refreshed and leave their small children while shopping, investigating the sanitary conditions of rural schools, agitating and educating for a pure milk-supply, for the stamping out of tuberculosis, for the extermination of the house fly, and for a more elevated tone in the current literature of the day, especially in the so-called humorous pages of the newspapers.

Specific instruction given by women's institutes. — Much that has been said concerning institutes for men applies with equal force to women's institutes, particularly with reference to the lack of close study. With a view to remedying this difficulty, several courses of study have been organized in which greater attention can be paid to detail and method. The institute branch of the Ontario Department of Agriculture has established courses in "foods and cookery," "sewing," and "home-nursing." The meetings of the institutes which formerly had considered subjects in a desultory way, showed the members clearly that something more definite was necessary. They asked the department to form special classes and courses for the systematic study of the above topics. Each course as now organized consists of ten or more lectures, and within the necessary limits covers the subject quite thoroughly.

The work is so arranged that the instructor may travel readily from place to place, holding a course at a different point each day from Monday to Friday, inclusive, covering the same route each week. The classes are generally held in the afternoons, but in special cases arrangements are made for holding classes in the evenings. During the past winter, eighteen courses of fifteen lessons each on foods and cooking were given at eighteen different centers; fifteen courses of ten lessons each on sewing were given at fifteen different places; and nine general courses of ten lessons each at nine different centers. The complete courses were taken by 1667 persons, and in addition many others took occasional lessons.

These demonstration courses are proving most effective in giving country women systematic instruction. There is no reason why similar courses should not be established to cover most rural districts. Institutes desiring to take advantage of the courses offered by the department, send in applications and enter into actual contracts to do their part of the work. A typical contract for the course in food and cooking is given below. The contracts for the other courses are similar to the one shown, except that the sewing course calls for classes of twenty, and each person is required to pay two dollars for the course and twenty-five cents for a single lesson. In all subjects, the full enrollment for the entire course must be guaranteed.

TYPICAL CONTRACT

Between the Institutes' Branch of the Department of Agriculture and the . . . . Institute
(Name of)

Demonstration–Lecture Course in

FOODS *and* COOKING

The Department of Agriculture agrees to:

1. Provide all portable equipment, except the necessary tables, chairs, and one cookstove.
2. Provide a teacher who will:
   - (*a*) Give ten Demonstration-Lectures in Domestic Science (Foods and Cooking), one each week, at each of the places included in the itinerary.
   - (*b*) Furnish such person as the Institute may appoint with written directions for any local marketing or special preparations at least one week before they are needed.

Each local Institute agrees to:

1. Advertise the course and solicit members for the class with a view of securing as large classes as possible.
2. Provide a room or hall suitable for the lectures and demonstrations, equipped with the necessary chairs, tables, cookstove, etc.; also to see that the hall is properly cleaned, lighted, heated, and ventilated.
3. Provide all materials for demonstration work.
4. Provide an assistant who will become responsible for the opening of the room, do the necessary local marketing, and clear up and clean the demonstration tables, dishes, etc. (It is usually possible to find some girl willing to pay for her attendance on the course in this way.)
5. Guarantee the sale of twenty-five (25) course tickets at $1.25 per ticket.
6. Appoint some person who will be required to keep an exact record of the attendance of those holding course

tickets as well as occasionals, at each session and report the same to the teacher at the close of the course.

7. Pay the $25.00 charged for the course within 3 weeks of the commencement of the course, and one half of the receipts above $25.00, whether payments be on account of course tickets or single admissions, either during or at the conclusion of the course. Payments are to be made to the instructor and receipts secured at time of payment.
8. The Institute concerned is at liberty to sell course tickets in addition to the twenty-five required and also to admit members at 15 cents per lesson.

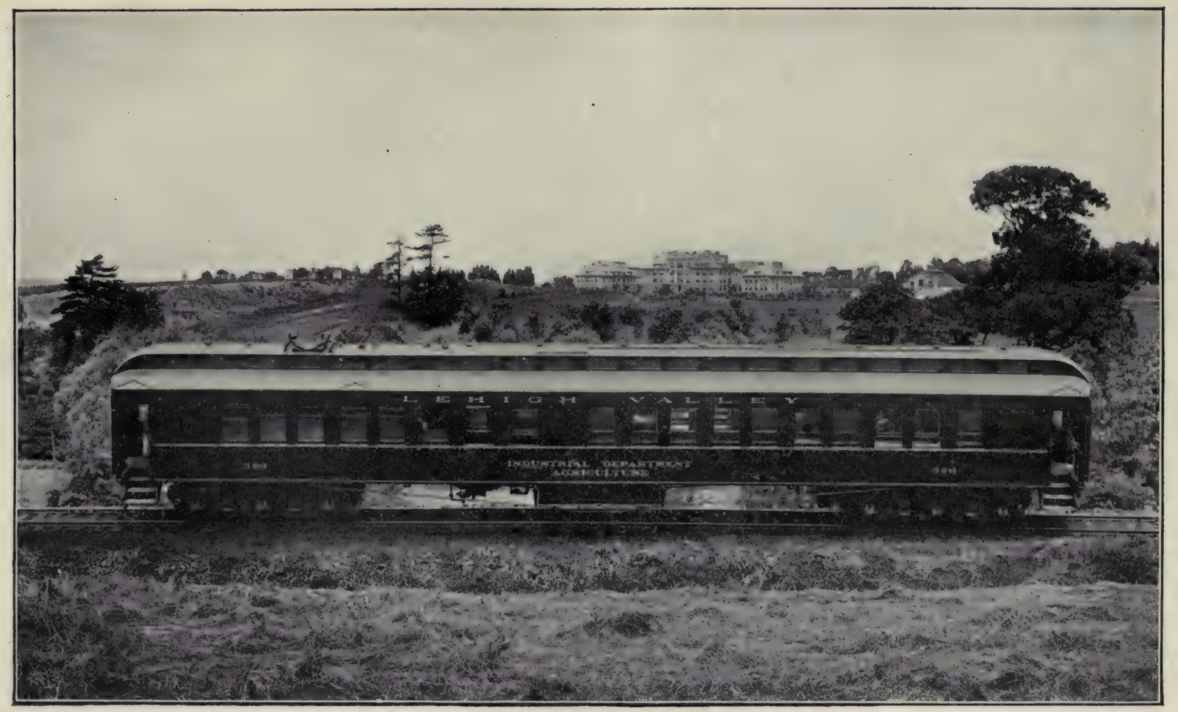
Signed by
.... representing the Department of Agriculture.
.... representing..............Institute.
.... teacher.

Dated at..........this..........day of.......... 1913.

In cookery, special emphasis is placed on food-values, and on the comparison of money-values with food-values. The aim throughout is not to teach fancy cookery, but plain serviceable dishes. Basic recipes which are capable of adaptation are given. Effort is also made to bring about a realization of the importance of proper cookery and its influence on the welfare of the family.

In home-nursing, the first lesson is one on the sick room. Then follow lessons on bed-making, the bath, several kinds of emergency work, external applications, bandaging, disinfection, observation of symptoms of various diseases, administration of food and medicine, and a lesson or two on baby hygiene. These classes are sometimes held in the homes of the members.

In the sewing classes, elementary lessons are given on the various stitch forms and their suitability and adaptability to different kinds of work. At the close of one typical course, each student had a shirt-waist, a skirt, a one-piece dress, and perfect fitting patterns of each of these for further use.


LEHIGH VALLEY
INDUSTRIAL DEPARTMENT
AGRICULTURE

HOME ECONOMICS EXHIBIT CAR, CORNELL UNIVERSITY

Many of the women drive from one to seven miles to attend these classes, and absences are almost unknown among those who have entered for the full course. Objection has been taken in some quarters to the fee charged; but, in the first place, the fee does not begin to cover the total expense, leaving a large balance to be made up by the department; and, in the second place, it has been found that owing to the imposition of the fee the classes are much better attended than if they were free. The federal government has recently made a liberal grant to the Provincial Department of Agriculture, and a generous appropriation from this has been set apart for the further development of these courses.

The work of the women's institutes in connection with these courses has been twofold: they have created the desire, and they have assumed the local responsibility for the organization. Without the spirit engendered by the previous work of the institutes, these courses would be impossible.

DOMESTIC-SCIENCE TRAINS

Much useful work has been done among farmers by the agricultural trains previously referred to. In several states, domestic-science trains are being run to accomplish similar results among the women on the farm. In North Carolina, for example, the farmers' institutes are running cars of this description. They are fitted simply with a gasoline stove and a few utensils, together with illustrative charts hung on the sides of the car. The cars are run through the rural sections, and qualified teachers give simple lectures on various phases of household management. Special emphasis is laid on sanitation, hygiene, and the care of children.

There are, of course, many regions that cannot be reached by trains. To reach communities of this character, the Tuskegee Institute has fitted up what is known as the "Jessup" agricultural wagon, drawn by two mules.

This wagon is chiefly designed to be of interest to farmers, but the household side is not entirely neglected. There would seem to be large possibilities of usefulness for such wagons in isolated rural districts.

A careful review of the whole situation in the open country leads to the conclusion that it is the duty of the state and federal governments to devote as much attention to the education of the farm woman as is now given to the education of the farmer and the economic raising of crops. While this work cannot be expected ever to yield as great financial returns as help given to farmers, it will give an equally important return in fuller and richer lives in the farm homes of our country.

CHAPTER XIII

THE TRAINING OF TEACHERS

For many years attention has been paid to the training of teachers, but it is only recently that special thought has been given to preparing teachers of agriculture, and still more recently to preparing teachers who would be able to give agricultural instruction in rural schools.

In order that agricultural education shall become widespread and effective, teachers of several grades are required: teachers for rural schools, for high schools, for special schools, for agricultural colleges, and for the various forms of extension service. Some of these we shall consider.

THE TRAINING OF TEACHERS FOR RURAL SCHOOLS

The problem of training teachers for the rural schools presents the greatest difficulties, and partly for this reason and partly owing to the fact that the methods of teaching agriculture in the rural schools have not been generally agreed upon, the whole matter has been largely neglected.

The consensus of opinion now seems to be that no satisfactory scheme of agricultural education can be built up unless it is approached from the rural school. Before attempting to discuss this question, it must be said that until rural-school conditions are improved, all the efforts toward training teachers for rural schools will not result in placing those teachers in the schools for which they are trained. Teachers must not only be trained but satisfactory places must be prepared for them. Fortunately there are now signs that public opinion is awakening to the urgent necessity of establishing such conditions in the rural schools as will attract and keep well-trained teachers.

The degree of a teacher's preparation will be governed by the salary paid, and the social and other conditions that exist in the community in which he is to work. The salaries paid in rural districts have not warranted teachers in spending either time or money in training. Another consideration that has prevented the training of rural school-teachers has been the too prevalent belief that special training is not required. A good teacher, it is said, will teach well anywhere, and it is contended that the training given in the ordinary normal school will apply equally well to both town and country schools. The general training is, of course, of service to any teacher, but the course and the practice in the average normal school are specially designed to meet the needs of city teachers, and the methods given are in many cases such as can be applied only to city schools. It is admitted that teachers for the higher branches of agricultural teaching need special training. Why not admit it in the case of rural school-teachers?

THE NEED OF SPECIAL TRAINING FOR RURAL SCHOOL-TEACHERS

The management, administration, and teaching of an ungraded school present many features which are never found in a town or city school. It is a comparatively easy matter to draw up a time-table for a town school, in which every class is separate, but it is a different proposition to arrange so that effective work will be secured in an ungraded school. A lesson drawn up to meet all logical and psychological requirements may be well suited to a class of thirty or forty pupils in a graded school, but the same lesson might prove a failure if given to a class of two or three pupils in an ungraded school. A teacher trained in a state normal school graduates with a collection of lesson-plans drawn up in accordance with all the recognized rules of logic, psychology, school-management, history of education, etc.; but if she ever finds herself in an ungraded school of, say, six or seven classes, each one of which must be kept busy, she finds that these plans "will not work."

The subject-matter of the different studies requires special adaptation to the needs of country children. Local environment and conditions must be used for purposes of illustration, and the work should have a direct relation to everyday experience. This experience is quite foreign to the teacher unless she has been led to make a special study of it during the course of her training.

THE CHARACTER OF THE TRAINING NEEDED

The training needed is both general and special. The general training is that required by all teachers. The special training needed is that which is closely related to, and springs out of, the peculiar problems of ungraded school management and the special conditions of the districts in which these schools are placed. This training will include nature-study, directly leading to agriculture, household science, manual training, and the correlation of all subjects with farm and country life. But this is not sufficient. The problem is much more than merely providing the future teacher with subject-matter. If this were the only thing to be done, the problem would soon cease to be a problem. It is more a question of method than of matter.

Instruction of a social and economic nature is needed to prepare the future teacher to act as a leader in the community. This should give some insight into the social aspects of country life. It should teach how to discover the actual conditions of the community. During their training the students, of course, will not be able to study the actual districts in which their schools may be placed, but they can be taught the methods to apply so that the facts may be discovered in any locality. They should be instructed how best to discover certain facts about the population, such as increase or decrease in numbers and why, number of illiterates, and so on. Facts which should be learned about economic conditions are, the natural resources, the number of stock, natural products, chief crops, character of soils, size and number of farms, numbers of owners and tenants, the effect of tenancy on the life of the community, average wages, land-values, and the like.

The social conditions which require investigation are the forms of recreation, organizations — their purpose and condition, character of the roads, telephones, rural-mail delivery, moral and sanitary conditions. Teachers should be able to make themselves acquainted with the general educational conditions in the neighborhood. They should make inquiry into the number of children leaving before the completion of the elementary school course and the reasons therefor, the amount of schooling received by the adults in the district, and the libraries, with the newspapers and magazines generally read.

Until recently, such subjects were considered as being entirely outside the scope of the teacher's function. It is now seen that the teacher's usefulness is seriously lessened unless he is able to discover and use such facts as the above. In the rural districts the function of the teacher has a larger social bearing than it has in towns and cities, and it is largely through the influence exerted in the homes that the teaching can be related to the dominant interests of the people.

TRAINING FOR PERSONS PREPARING TO TEACH

The methods in Ontario. — Now let us consider types of courses that have been developed for the special purpose of training rural school-teachers. In the Province of Ontario, teachers' certificates are of three grades: third class, valid for two years; second class, qualifying to teach in any public school; and first class, qualifying to teach in high schools. A first-class teacher may obtain a specialist certificate by taking a degree course in the university. The poorer rural schools are generally filled by the third-class teachers, while many of the second class take rural schools until they can obtain appointments in town schools.

For the special training of rural school-teachers there are, in the province, a number of schools termed "model schools." These are generally established in connection with a public school in a small town, usually situated in the midst of an agricultural region. The school term lasts four months, and all of the time is spent on professional subjects, with a brief review of the previous academic training of the pupils. Candidates are admitted to these schools on passing an examination held at the end of the first two years of high-school work, so that all have reached a fair standard of academic attainment. No teacher is employed in any rural school who has not had at least two years in the high school except in special cases in the poorer localities. The model schools are situated so that the majority of the pupils are able to live at home while in attendance. Throughout the whole of the model school course, the problems of the rural school receive the greatest attention.

Many of the graduates of these schools, after having taught one or two years in an ungraded school on a model-school certificate, take the examination for entrance into one of the normal schools, of which there are seven in the province. The length of the term in the normal schools is from September to June, but those students who have had previous teaching experience take the final examination at Easter time. For the students thus graduating there was held at the Ontario Agricultural College for several years a spring course of about three months. The board, lodging, and traveling expenses were paid by the Department of Education. The object of this course was to train teachers of rural schools in subjects directly bearing on the problems of agriculture and rural life. For the purpose of instruction and observation, the entire college equipment was at the service of the students. Encouragement has been given by the fact that a teacher who introduces the subject of elementary agriculture into her school receives a grant of $30 annually.

This course has now been discontinued and its place taken by summer schools, by attending two of which, and completing a prescribed course of reading, in addition, the teacher is legally qualified to teach elementary agriculture. Each student is required to read and synopsize at least three books in the interval between the two summer courses. These books must deal with agricultural or rural problems.

The above course of training, it will be seen, provides a two-years high-school course, a four-months model-school course, and an eight- or nine-months normal-school course, in all of which agriculture is given a prominent part. At the conclusion of a course of this character, the teacher should be able so to correlate the general school work with agriculture as to give it the agricultural trend required in rural schools. A three-months course in household science is given at the University of Toronto on the same terms as the agricultural course. For the year 1914–15, there are 270 schools in the province registered with the Department of Education as teaching agriculture.

Rural teachers' conferences. — The above plan is unique, and has within it great possibilities for the training of teachers for elementary agriculture. These spring and summer courses were followed by a rural-teachers' conference lasting one week. Each county teachers' association in the province was asked to send two delegates, selected from the rural and village schools. When possible, one of these was to be a teacher who had received special training in agriculture at the college, and the other a teacher without this special training. In both cases they were to be representative teachers who were conducting school gardens or teaching agriculture. They were also to be teachers who were not changing schools. Under certain conditions the traveling, board, and lodging expenses were paid by the Department of Education. A month's course for inspectors of public schools is now being arranged on the same plan. The whole scheme is under the management and direction of the "Director of Elementary Agricultural Education," an officer of the Provincial Department of Education.

Methods in the United States. — The United States has attacked the problem in several different ways. Its educational institutions are so many and so varied, and there is so much overlapping and duplication of effort, that it is always difficult, if not impossible, to enumerate the different agencies that are engaged in any particular line of work. With reference to the training of teachers of agriculture, a careful study of the different kinds of schools seems to result in the discovery of the following six types: (1) Agricultural colleges; (2) special detached and private foundations; (3) educational departments of universities and colleges; (4) state normal schools; (5) local or county normal schools; and (6) high schools.

Teacher-training in high schools. — The plan of training rural-school teachers in high schools has been largely adopted within recent years. There are two plans in use, and the difference between the two systems is very marked. In New York, Michigan, and Minnesota, while the classes are organized in connection with high schools, they form entirely separate departments, quite distinct from the high school. Ordinary high-school subjects are not given, and the courses are not credited toward the high-school diploma. Some of the subjects are taught by the high-school teachers, but as a general rule the class is taught entirely by its own teachers.

In other states the course forms part of the regular high-school course, the professional subjects being usually confined to the third and fourth years, or to the fourth year only. Candidates for admission to these courses are generally required to be seventeen years of age. The course continues for thirty-six to forty weeks. In most cases, every effort is made to adapt the work to the requirements of the country schools. If this adaptation can be secured, these agencies seem to offer the most immediately available means for giving to rural teachers at least a partial training.

Although these schools have been widely established, there is nothing like unanimity of opinion regarding their usefulness. The conclusion of the whole matter seems to be that these courses, like so many other of our educational expedients, are simply temporary devices until we are able to evolve something better. That they supply a present need cannot be doubted.

County normal schools. — The Commissioner of Education reports that the graduates of the state normal schools are able to supply less than twenty-five per cent of the demand for new teachers in the elementary schools of the country. Teachers trained in these institutions are nearly all absorbed by the town and city schools; for this reason it has been found necessary to establish another type of school which shall definitely prepare for rural work. Probably the best school yet developed for this purpose is the local or county normal school.

Such schools have been developed in Wisconsin and Michigan, and have so established themselves in the good opinion of the educational authorities that it is difficult for any teacher to get a position in those states without having had this training. The first of the Wisconsin schools was opened in 1899, and such schools are now in operation in many different counties in the state. By law one of these schools may be established in any county where there is not already a state normal school. The county provides the building and equipment and one third of the cost of maintenance, and if the school is approved by the State Education Department and carries out the regulations of that body, the State pays the other two thirds of the cost of maintenance. In some counties, special buildings have been erected; in others, rented quarters are used; and in still others, a part of the local high-school building is used. No candidate can be admitted to these schools who has not at least the qualifications required to enter a standard high school.

The course for these students takes two years for completion. High-school graduates are allowed to complete the course in one year. For these, there is arranged a special course, the academic work of the two-years course being omitted and only the professional work included. The courses of study are not uniform in all the schools, but are nearly so, as they must receive the approval of the State Superintendent of Education. In none of them is any attempt made to teach the usual high-school subjects. Much work is done in nature-study, agriculture, and domestic science, all with special reference to the requirements of the rural schools. From ten to twenty weeks of practice-teaching and observation in the small rural schools of the neighborhood is required for graduation. Having been in existence since 1899, these schools have had time to demonstrate their usefulness. The county superintendents who are employing their graduates are at one in saying that their work is far superior to that of other country-school teachers. These schools, being local, take students from the locality and with the preparation of the district schools, and annually return a large number to the schools from which they came.

State normal schools. — The next step in the development of teacher-training is the state normal school. No matter how good the work is in the lower institutions, the state schools will never be relieved of the duty they owe to the rural communities. The state normals have taken many years to rid themselves of the idea that teachers for rural schools needed no preparation different from that of teachers who intended to enter urban schools. Their graduates were absorbed by the towns and cities, so what was the use of attempting to train for a kind of service upon which the graduates never entered. But the serious condition of the rural schools has at last aroused national concern, and many of the state schools are now aware that their function cannot be properly performed unless they take definite part in the preparation of rural-school teachers. Many of the schools, however, even yet offer no professional course specially adapted for rural schools, but they do offer courses in agriculture, household science, and similar subjects of special value to rural teachers.

The work to be done by any normal school depends largely upon two things: first, the kind of schools in which the graduates expect to work, and, second, the subjects required to be taught in the public schools of the state. If a state has a small rural population, as in Massachusetts, New Jersey, and Rhode Island, it would be a duplication of effort for all to offer special work for rural teachers. If the population is chiefly rural, as it is in states like North Dakota, Georgia, Alabama, and South Carolina, then it becomes the manifest duty of most, if not all, of the schools to offer courses which will fit their graduates for the work they are likely to meet. Where the state course of study requires nature-study, agriculture, manual training, and household science to be taught, the normal school must of necessity teach not only these subjects, but also the methods of teaching them in the elementary schools.

Among the normal schools for negroes, many are giving special courses, but only two are making any attempt to train teachers especially for rural schools. These two are Tuskegee Institute and Hampton Institute. The normal departments of these two schools concentrate their efforts on the training of rural teachers. They both give work in agriculture and other rural industries, in rural sociology, and rural-school methods and management. Hampton has an ungraded school as part of the institute, and supplements its normal work with observation in selected schools in the neighborhood.

The following agricultural subjects, among others, are necessary for the adequate training of teachers for rural schools: nature-study, elementary principles of agriculture, elementary sanitation and hygiene, household science, manual training, and practical principles and problems in elementary physics and chemistry applied to these subjects.

Some states are making special efforts to interest boys and girls in normal-school training. In Illinois, for example, a law called the "Normal School Scholarship Law," was passed in 1905, which provides that one pupil from each township in the state, selected by examination, may be given free tuition in one of the normal schools. These boys and girls are from the common schools, and about ninety-five per cent of them come from the country districts. Most of them have been born and bred on the farm, and thus have had experience in farm conditions. With this knowledge as a basis, it may be expected that the agricultural training of the normal school will furnish them the ability to give a rural bent to their teaching when they return to the rural school.

In many states agriculture is now a required subject for teachers' certificates, and some states require the subject to be taught in the elementary schools. This has forced the work into the curricula of the normal schools. Many normal schools offer courses in agriculture, school-gardening, and nature-study. The majority of these courses extend over four to twelve weeks, but a considerable number offer a full-year course. The North Adams (Massachusetts) State Normal School gives a three-years course. The State Teachers' College of Colorado maintains a department of agricultural education and offers nine courses. Each course is arranged especially for rural school-teachers, and a special diploma is given. Each course takes sixty hours, and the courses are as follows: nature-study, elementary agriculture, school gardens, soils and crops of the farm, farm animals, dairy industry, poultry husbandry, horticulture on the farm, the farm home, rural sociology, and the rural school.

It is from the three sources, — the high schools, county normal schools, and state normal schools, — that the trained elementary teachers must come; and it is the first and second of these that will prepare the majority of the rural teachers. Upon these teachers, probably more than on any other class, will depend the attitude of the country child toward agriculture.

TRAINING TEACHERS ALREADY IN SERVICE

In addition to the teachers being trained for future service, there are a large number of teachers now employed who have had little or no training either in the subject of agriculture or in methods of teaching. It will take many years to supply all the schools with properly trained teachers. Many agencies are now being employed to give the teachers already in service some knowledge of the newer subjects and the methods that may be used to teach them effectively. These agencies have arisen mainly for the following reasons: —

1. Many teachers enter the profession with little training, and therefore need to be trained while in service.
2. Complete training is impossible before service begins, as the student has not the necessary experience or background to make it effective.
3. Teaching should be a progressive calling, — there is no standing still; and the teacher who does not keep abreast of the times quickly becomes inefficient. For economic efficiency and educational progress, the teaching staff in our schools must be kept to its highest state of perfection.

Summer schools. — Summer and vacation schools have long been considered a vital function of educational institutions and form one of the most effective methods of training teachers while in service, particularly when the subjects are treated intensively. If so arranged that the work may be continued through two or three summer sessions, the summer school can really be made in effect a normal course. It has long been the practice in many universities to give a year's credit for intensive work in mathematics, languages, science, and other subjects pursued in an approved summer school of six-weeks duration. The same can be and is being done in agriculture. A typical five-weeks course in connection with one of the universities in the United States devotes one week to soils, one to plants, one to animals, one to birds and insects, and one to agricultural economics. It is particularly important that the instruction given in summer schools for teachers shall be concrete.

Teachers' institutes. — In most states and provinces, the teachers' associations are required to hold one- or two-day institute meetings during the year. These are for the purpose of bringing the teachers into contact with each other and making them acquainted with recent developments in the work of the schools. The country teacher probably suffers from the isolation of country life more than the farmer. Frequent meetings with other teachers is one means of relieving this isolation. These meetings are, of course, too short for any systematic instruction in agriculture. Their main purpose is to bring to the notice of the teachers the most recent progress, the new methods, new books, bulletins, and other publications on the subject of agriculture and the various sources of information that are open to teachers.

A study of the program offered in recent years at institute meetings, reveals the fact that agricultural subjects are receiving much greater attention than ever before. As the teaching of agriculture depends very much on the attitude of the teacher, anything that can influence this attitude favorably is a decided gain. At the close of every institute meeting, announcement should be made regarding any summer courses, lecture courses, or other means open to teachers for obtaining further information or training. In many cases, speakers are obtained from farmers' institutes or agricultural colleges to address the teachers on agricultural subjects. In some states the superintendents of public instruction regard the farmers' institutes as one of the most powerful agencies they can enlist in the work of introducing agriculture into the elementary schools.

Correspondence courses. — The correspondence method of instruction has also achieved marked success in this connection. Such courses have now almost passed the period of hostile criticism, and they are accomplishing much in the field of industrial training. Why should the correspondence method not be applied to agriculture? Correspondence courses specially adapted for teachers who are required to give instruction in nature-study and elementary agriculture, but who have received no specific training therefor, may reasonably be expected to do much good. Until recently the work of correspondence instruction was left almost entirely to private and commercial enterprise, but it is now being adopted somewhat generally by the universities, colleges, and schools. In the training of teachers in service, the correspondence method, if properly carried out, has great possibilities.

There is a mass of material available for general reading on the subject of agriculture, but not much of it will directly aid the rural teacher. It will not be of much use to direct the average teacher to bulletins and books, however good they may be. Courses must be organized on definite topics, and must not be confined to the purpose of giving information. They must contain methods, plans, and devices that can be applied to the average rural school under ordinary conditions. They must be conducted by persons who are sympathetic toward rural requirements. Arrangements should be made for answering questions and solving difficulties promptly. Provision might also be made for a traveling instructor in connection with these courses. Where a number of students in one locality are pursuing the same course, the occasional visit of such an instructor would act as a decided stimulus.

After the courses have been organized, the next question that arises is how students are to be obtained. Every state department of education should have its correspondence branch, and correspondence courses might be conducted by the colleges or high schools. Could not the taking of such a course be made mandatory for all who have not received a certain amount of training? If this should be considered inadvisable, why should we not shed some of our supposed dignity and adopt the methods that have been so successful in the case of the commercial schools, utilizing advertisement and publicity. These schools go after business, and hundreds of young men and women previously unaware of the existence of such schools are induced to take courses. The public schools might be equally as successful by the expenditure of even less effort.

Itinerant teachers. — Another very effective means of enabling the rural teacher to teach agriculture is by means of the peripatetic, or itinerant, teacher. This method has the advantage of combining supervision with training. City schools have visiting teachers and supervisors for certain subjects, and some states have adopted a similar plan for agriculture in rural schools. One teacher can visit several schools during a week. In commencing this work, it is generally necessary for the visiting teacher to give the instruction himself; but he should so arrange matters that the teacher will be able eventually to carry the work under his supervision. This plan, properly carried out, improves the instruction in the school while at the same time the teacher is being trained. In some districts it should be possible for the teacher in the high school to supervise the teaching of agriculture in the elementary schools of the neighborhood.

Some method should be devised by which the students leaving the various training institutions may be kept in touch with the parent institution, and no better plan could be arranged than a series of visits by the teachers of those institutions to the schools in which their graduates are engaged. Even with the best training in the schools, there will always be need for further training, advice, and encouragement, such as could be given during visits of this character.

THE TRAINING OF TEACHERS FOR HIGHER SCHOOLS

The institutions previously described are concerned mainly with the preparation of teachers for the elementary schools. Teachers for secondary and higher schools are also required. For these we must look to the universities, either separately or in combination with the colleges of agriculture. Many graduates of the colleges of agriculture are now teaching in secondary schools. Unfortunately, however, in many cases these students have had no special training in pedagogical method, and as a consequence their work has not been so effective as it otherwise would have been. It may be laid down as a general principle that neither an agricultural college that does not devote adequate attention to the professional side of teaching, nor a university that has not sufficient equipment for agriculture, can alone effectively train specialists for teaching agriculture in secondary schools.

The colleges are recognizing that agricultural experience and pedagogical training are both necessary. In accordance with this belief, Teachers College at Columbia University gives credit for certain courses in the New York State College of Agriculture at Cornell University. Another arrangement of this type is that in effect between the University of Toronto and the Ontario Agricultural College. A course four years in length has been organized, two of which are to be spent in the university and two at the agricultural college. The successful completion of this course entitles the student to the degree of Bachelor of Science, and qualifies him to teach agriculture or general science, or both when needed.

THE GRADUATE SCHOOL OF AGRICULTURE

Since the summer of 1902, a Graduate School of Agriculture has been held at selected colleges and universities in the United States. This is intended to furnish opportunity for extended discussion of topics related to agriculture and the methods of teaching it. The requirements for admission are as follows: "Only persons who have completed a college course and taken a bachelor's degree will be admitted to the privileges of the school, except that permission may be granted to non-graduates who are recommended by the faculty of the college with which they are connected, as persons properly qualified to profit by advanced instruction in agriculture." The school is open on equal terms to both sexes, and it continues for four weeks.

Most of the agricultural colleges offer postgraduate work in agriculture. Many offer courses leading to the master's degree, and a few give the degree of Doctor of Philosophy. The Graduate School of Agriculture, the various postgraduate courses, and the stations for experiment and research, crown the rather motley edifice that has been erected to provide for the training of teachers of agriculture.

CHAPTER XIV

THE EXAMPLE OF DENMARK

A STUDY of agricultural education could not be considered as even partially complete without some consideration being given to the remarkable success that has attended the efforts of educators in certain foreign countries, notably in Denmark. Notwithstanding the progress that Canada and the United States have made, they have yet much to do, and in the doing of it they may learn a great deal from a study of the methods employed in countries that have achieved notable agricultural prosperity.

THE AGRICULTURAL SITUATION IN DENMARK

The continent of Europe has many striking examples of regeneration through agricultural education, but, by universal consent, Denmark is admitted to be the country that has accomplished the greatest results in agricultural betterment. In 1864, she ranked very low economically in the list of nations. She was faced by national ruin as the result of a disastrous war; she was deprived of some of her fairest provinces; she was forced to pay a heavy war indemnity; and her chief market was closed by a high tariff. This combination of difficulties and disasters aroused the people to activity. Agents were sent out by the government to investigate what other countries were doing agriculturally, and to study the requirements of the English markets. The results of this activity soon became evident.

The area of Denmark is about 15,500 square miles, which is about one third as large as the State of Mississippi. Its population in 1911 was 2,757,076, almost wholly Scandinavian, only three per cent being foreign-born. Eight million (8,177,169) acres are in farms. Outside the city of

Copenhagen, which contains about one fifth of the population, three fifths of the people live in the country itself and one fifth in the country towns. Danish conditions differ materially, in some respects, from those obtaining in North America, and it will be well to consider some of these differences before looking at the provision made for agricultural education and organization.

Only about twenty-five per cent of the people depend upon manufacturing and building industries. The Danish farmer does not consider a large area of land necessary in order to enable him to make a good living. Out of more than 250,000 rural proprietors, there are more than 70,000 with holdings under one and one third acres, and small farms are the rule throughout the country. The government makes it a part of its policy to assist small farmers and laborers, who have previously worked for other farmers, to establish their own farms, build their own homes, and become independent proprietors.[1]

The small size of the farms renders intensive farming necessary. The homogeneity of the population makes organization of all kinds easy. The whole people live practically under the same climatic conditions. Through the influence of their rural high schools and their agricultural schools, the people have been trained to coöperate.

The above outstanding differences between the Danish and American farmers are such that the application of Danish methods to American conditions is rendered somewhat difficult, and perhaps in many cases undesirable.

THE COÖPERATIVE MOVEMENT

It will now repay us to consider some of the achievements of Danish agricultural organization. In 1860, the British vice-consul at Copenhagen reported to his government that "butter, or what is sold under that name, is execrably bad." To-day Danish butter, Danish bacon, and

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[1] Morman, James B. *Principles of Rural Credits.*

Danish eggs rank in price and quality at the top of the English market. The following table[1] shows the growth in the sales of these products through organized effort: —

	1851	1910
Exports of butter	$9,200,000	$50,500,000
Exports of bacon	2,000,000	34,000,000
Exports of eggs	300,000	7,000,000
Total	$11,500,000	$91,500,000

In 1912, there were marketed, through the coöperative system, eggs, butter, bacon, and meats to the value of $121,000,000.

How was all this brought about? England's opportunities were as great as Denmark's for the production of butter, yet Denmark has captured the English butter market. The improvement of the butter commenced with the establishment of the dairy school at Copenhagen, where an army of butter-makers was trained. Experts were sent from city to city throughout the whole of the British Isles to study the British markets, and these agents sent home weekly reports as to what those markets demanded. Butter-scoring contests were inaugurated by the Danish Government, so that each maker could compare his product with that of his fellows.

The large growth in the production of butter was made possible by the increase in the productive capacity of the individual cow rather than by increasing the number of cows. This is shown by the following table: —

	Number of milking cows	*Value of exported butter*
1893	1,011,980	$18,720,000
1903	1,089,073	$40,320,000
1910	1,280,000	$50,500,000

Thus, the number of milking cows had been increased by twenty-six per cent, while the value of the butter had been increased by more than one hundred and sixty-nine per cent. One Danish authority states that the average yield of milk of the Danish cow in 1890 was 6170 pounds. In the Isle of Fyen, which contains some of the best land in the country, 20,000 cows gave an average yield of 8100 pounds in 1910.[1]

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[1] Royal Commission on Industrial Education. Part 3, vol. 1.

After the capture of the butter market, the Danes concentrated their attention on the production of high-grade pork. Agents were sent, as before, to England. These agents discovered that England obtained her choicest pork products from Ireland, and representatives were sent to that country to study how Irish bacon was produced. A large sum was spent in studying the food-combinations necessary to produce the highest quality of product. The results are shown by the export of $2,000,000 worth of bacon in 1881, more than $22,000,000 in 1901, and more than $34,000,000 in 1910.

Some years ago, a trust was formed in London to control the bacon industry. It fixed the price to the farmer and the price to the consumer. This meant disaster to the Danish farmer. But he met this danger, as he had met his former difficulties, by coöperation. He formed a selling agency of his own. The Danish Bacon Company of London not only destroyed the trust, but it insured to the Danish farmer a sure market for his product whereby the farmer should get all that his labor produces. He is not despoiled by warehousemen, or by railway or other monopoly charges.[2]

In the year 1910, the total value of all pork products exported from the United States was $135,959,373. It will thus be seen that little Denmark, less than one fourth as large as Wisconsin, and about one third as large as New York State, exported more than one fourth as much pork as the whole of the United States, which considers pork as one of its very important products.

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[1] Report of Royal Commission on Industrial and Technical Education. Ottawa.

[2] Special Report on Agriculture. State Board of Regents, Charleston, West Virginia.

The same progressiveness has been evidenced all through Danish agriculture. The marvelous progress of the country has been attributed to many causes, the chief of which are: —

1. The extent to which the coöperative movement has grown.

2. The character of the people, which makes coöperation possible and practicable.

3. The general education of the people in the "people's high schools."

4. The efficient state of education in the rural districts.

5. The efforts of the agricultural schools, and the general agricultural organization.

THE KINDS OF COÖPERATIVE ORGANIZATIONS

The coöperative organizations may be divided into three main classes: —

1. Productive coöperative associations, such as creameries (begun in 1880), meat-packing plants (1887), and coöperative societies for the exportation of eggs (1890).

2. Coöperative societies for the analysis, investigation, and improvement of the different branches of produce-breeding live-stock.

3. Coöperative societies for purchase and distribution of seeds, fertilizers, machines, implements, etc. The first of these was established in 1886. The capital for most of these undertakings is raised on the collective credit of the members.

In these associations, the *husmand* (small farmer) has one vote, and the large farmer, with many times the value of land, is also allowed only one vote. The small farmer is put on an equal footing with the large producer and does equally well in proportion to the capital he has invested. The farmer is relieved from the risks of marketing, and is saved the waste of time involved. His business is done by trained men, and he is not at the mercy of commission agents or others. By being relieved of these duties, he is able to devote the whole of his time to the productive end of his business. All the local associations have joined themselves into central associations, and there is thus coordination of effort throughout the land.

These societies are organized for doing the business and not for doing the work of the farm, although a number of them employ expert advisers to assist the farmer in bringing his product up to the standard required by the association. The individualism of the farmer seems to have been swallowed up in a highly developed community spirit. The Danes obtain high prices, and these prices are the result of efficient business management. They take out of the British Isles over eight million dollars annually; more than any other nation obtains for an equal quantity of the same products. Many states in the Union are probably doing as much in the way of systematic agricultural education as Denmark is doing, but in the application of business methods to the disposal of products they have not yet begun to learn the lesson which was mastered by the Danes more than a quarter of a century ago. The Danes might have taken Roosevelt's phrase, "better farming, better business, better living," for their motto; but they placed better business first, and the results have justified their judgment.

THE PEOPLE'S HIGH SCHOOLS

The leaders among the Danish people attribute a large measure of the success to the people's high schools. Various other names have been given to these schools, "peasant's high schools," "folk high schools," and "popular high schools"; but they are known generally by the name first given. These schools are unique, and thus far have not been adopted by any other country. The Commissioner of Education of the United States is so convinced of "the part these schools have played in the remarkable and rapidly increasing prosperity of the Danish people," that in the winter of 1912 he detailed three special investigators to proceed to Denmark to make a close study of Danish educational conditions. One of these investigators was instructed to concentrate his attention on the people's high schools.

It is difficult to describe these schools. They are not schools in the generally accepted sense of the term. There are no examinations, no diplomas, no compulsory attendance. They are not schools for any special type of education, but seem to have been established for the purpose of creating a spirit of nationalism and unity, which would enable the people to work together for the common good. They were the conception of Bishop Grundvig. His idea was to develop the man by education, but he said that "education should not be rendered in such a manner that it breeds despondency and contempt for work, but so that it ennobles a man's work and heightens his ability to perform it well."

Their origin dates back to the middle of the last century. The first plan was that of a great school at some central point; but owing to the death of the King, who had given it support, this plan was never carried out. Some years later a modified plan was adopted. The idea of one great school gave way to a number of small schools, and the movement became one of the people. The first school was established at Rodding in 1845, in the northeastern part of Schleswig, which at that time was Danish territory. This and other schools established during the early years did not prosper, and for nearly thirty years the movement failed to appeal to the people. As one of their leaders says, "The movement was at first looked upon as a fantastic dream of impractical minds, impossible to realize, or, when perhaps realized, producing day-dreamers."

After the war with Prussia in 1864, when the people recovered from the first effects of the staggering blow, the leaders saw that the best way to restore the national prestige lay in awakening the intelligence of people and in developing the resources of the land, rather than in making a futile attempt to regain what they had lost by force of arms. The thoughts of the people were once more turned towards Bishop Grundvig's plan. To-day the total enrollment in these schools is almost ten thousand, and the number of schools is about eighty. Over ten per cent of the people pass through them. They are not state institutions, but are the result of private initiative. Some are owned and controlled by high-school societies, others by private individuals. They are inspected by the government, and when they reach a certain standard they receive 3000 kroner ($810) annually. There is a government fund to assist students who are unable to pay their own expenses. The maximum assistance so given is 25 kroner ($6.75) per month. Students pay 35 kroner ($9.45) per month in winter, and 32 kroner ($8.64) per month in summer, for board, lodging, and tuition.[1]

These schools are intended primarily for the sons and daughters of farmers, and are always located in the country. The ages of the students range from eighteen to twenty-five years. Mr. A. Poulsen, one of the leaders of the movement, says: —

> They are all schools for grown-up people. Grundvig held to the opinion, which experience has shown to be right, that it is at the age of eighteen to twenty-five that the intellectual faculties are most susceptible to influence. Before that age the mind is not sufficiently developed and meditation cannot be awakened. Later on, in more advanced age, most minds will be occupied with the practical duties of life; but the age of strong emotions, feelings, and arduous longings, the "*sturm-und-drang*" period natural to youth, is the best time for sowing the seed of knowledge, and for exercising the personal influence of the teacher. For on the latter all depends.

The young men meet for five months in the winter, and the young women for three months in the summer. Of the eighty high schools, thirty have an agricultural side; and there are, in addition, about twenty agricultural schools and thirteen housekeeping schools, all similar in their method of organization and management.[1] The agricultural schools grew out of the high schools as a branch from the parent stem, and afterwards as separate institutions followed similar methods except that agriculture and the related sciences formed the main part of the subject-matter of the curriculum. These special agricultural and housekeeping schools are generally located in the neighborhood of the people's high schools, and in some cases the same teachers lecture in both classes of schools. The courses in the two types of schools occupy about the same length of time.

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[1] United States Bureau of Education. Bulletin 5. 1914.

Allowing for those who attend an agricultural school after attending a people's high school, and those who attend twice, about one person in every five of the rural population who annually comes to the age of eighteen attends a high school. It is estimated that there are 150,000 men and women who have attended these schools. In 1901, thirty per cent of the members of the upper and lower houses of Parliament had been high-school pupils. The high-school pupils exert a marked influence upon the social and intellectual life of the people by the spirit of comradeship which is maintained after their attendance at the high school ceases. Scattered throughout Denmark, in thirty or forty towns, "High-School Homes" have been established and maintained. These are simple hotels, with plain living accommodations, with rooms for meetings and social intercourse, and they contain useful libraries and other accommodations. When the students of the high schools visit the towns, they make these homes their headquarters.

The high schools proper concern themselves with the development of patriotism through history, literature, song, and story; and even the schools that have been established for the express purpose of giving agricultural instruction spend much time in this way. The influence of these schools is well shown by the following quotation from Mr. Alfred Poulsen: —

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[1] Report of Royal Commission on Industrial Education. Ottawa, Canada.

> Then arose as if by magic the large coöperative dairies which get their milk from large districts, usually from a whole parish. . . . The quickness and precision with which this change was carried out is due partly to the leading agriculturists of our country and partly to the high schools. By their help a set of energetic young men were brought up to understand the importance of the new ideas, and to secure the success of the new principle of coöperative manufacture. Some of them after a short course of instruction were able to undertake the responsible work as managers. . . . The greater part of the men and women who manufacture this butter are pupils of the high schools. I might, if time allowed, quote many sayings of men who in different branches of industry have made themselves prominent. They all agree in this, that the young people who have frequented the high schools are much more to be relied upon, more industrious, than their comrades who never had the opportunity of attending them. To be brief, I shall content myself with stating a remark recently made at the congress in Antwerp by Mr. Peschke Koedt, one of our most influential merchants. He said, " The popular high school is one of the most prominent factors in the economic life of the country."

THE ROYAL AGRICULTURAL AND VETERINARY INSTITUTE

At the head of all the institutions established to give agricultural training, is the Royal Agricultural and Veterinary Institute at Copenhagen. This is the supreme teaching body. It trains veterinary surgeons, teachers of agricultural science, agricultural experts, land stewards, and the sons of the larger farmers who desire to add to their knowledge of practical farming a complete course of training in the sciences relating to it. In 1912, the Institute was attended by three hundred students. The course of study extends over two years, but a supplementary third-year course is given. No courses shorter than two years are arranged. The course for veterinary students extends over four years, and sometimes over five years, and the full course is taken by all students. No farm is attached to this college, nor is any attempt made to train the student in any branch of practical farming. The staff includes twenty-two professors and lecturers, besides twelve assistants and tutors. Attached to the college are large research laboratories, which receive an annual subsidy from the state in addition to the annual grant of $70,040 given to the college.

RURAL ORGANIZATION IN DENMARK

It now remains to consider briefly what may be considered the chief factor in Danish agricultural progress — the organization. The corner-stone is the Danish Agricultural Society, established in 1769. The government looks upon this society almost as its official adviser, and has delegated the administration of many measures to it. Amongst these are the services of consulting experts in the several divisions of agriculture, supplementary training of creamery butter-makers, official tests of agricultural machines and implements, and various lines of field experiments, which are placed under the immediate supervision of specialists appointed by the society for the purpose.

The State Department of Agriculture does not directly employ agricultural experts (as in France, England, Norway, and Sweden), nor any specially qualified agricultural council (as in Prussia and Belgium), but uses as its advisers the Royal Danish Agricultural Society, the Central Coöperative Association, the Veterinary Board of Health, and other bodies. The president and one half of the thirty-six directors of the Danish Agricultural Society are elected by the members of the society, the other half being chosen by the farmers' associations, one member for each county. In this way, every section of the country has an opportunity to help direct the policy of the society, which thus becomes the national representative of Danish agriculture. The membership is between seven and eight hundred, and the annual fee is twenty kroner.

After the introduction of the agricultural reforms in the latter part of the eighteenth century, certain organizations were established "for the promotion of morality and ability among the rural population." These have developed into what are known as "farmers' associations," through which effect is given to the general development policy. The first local association was established in 1805. These associations grew to twenty-five in number in 1850, forty in 1860, while at the present time there are one hundred and sixteen, with a membership of more than 86,000, paying in annual fees above 291,000 kroner ($54,270).[1] In order to prevent duplication of effort and to enable them to undertake larger work than could be handled by the limited means of the local associations, they have formed themselves into five provincial associations. Many of the problems considered being common to all parts of the country, the five provincial organizations organized in 1893 a national executive body of thirteen members.

In 1901, "small-holders' associations" were organized to deal with the problems of the very small farmer. These again, like the farmers' associations, formed five provincial associations in 1902; and in 1903 a national executive body of eleven members was established. There is now a total of 723 local associations with 38,950 members; and adding the 116 farmers' associations with 86,000 members, there are 839 associations with 124,950 members.

In addition to these bodies, a large number of special organizations have developed out of the farmers' associations, for the purpose of solving special problems. There are now about 270 horse-breeding, 1260 cattle-breeding, 253 swine-breeding, and 102 sheep-breeding associations, most of which have formed provincial as well as local associations. There are also poultry-keeping associations, bee-keeping associations, dairy-records associations, and a number of others.

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[1] Royal Commission on Industrial and Technical Education. Ottawa.

The agricultural credits associations were formed in 1898, with the object of advancing temporary loans for current working expenses. Under these associations, the maximum loan is 3000 kroner ($810), the maximum time for which a loan is granted is nine months in a year, and the maximum rate of interest is three and one half per cent. The state has placed 5,000,000 kroner at the disposal of these associations, of which there are at present 168.[1]

There are many other societies and organizations which cannot now be dealt with, but enough has been said to show that the Danes rely in large measure upon organization and coöperative activity for the development of their agriculture; and it is precisely in this direction, probably more than in definite agricultural instruction, that the North American farmer lacks.

What may be considered as the essentials of agricultural progress are here shown to be: —

1. Highly trained enterprise and resourcefulness.
2. The power that comes to farmers through organization.
3. The effectiveness with which the government is able, chiefly through these organizations, to aid the individual farmer with expert advice, technical instruction, and material support.

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[1] Royal Commission on Industrial and Technical Education. Ottawa.

THE END

APPENDIX

APPENDIX

LIST OF AUTHORITIES CONSULTED

1. Books relating to the subject generally

Bailey, L. H. *The Outlook to Nature.* Macmillan Company, New York, $1.25.

A series of four lectures on "The Realm of the Commonplace"; "Country and City"; "The School of the Future"; "Evolution: the Quest of Truth."

——— *The Training of Farmers.* Century Company, New York. $1.

Deals with the reasons for boys and girls leaving or staying on the farm; colleges of agriculture; college men as farm managers; the college of agriculture and the State.

——— *Cyclopedia of American Agriculture.* Macmillan Company, New York. 4 vols. $20.

Particularly volume 4, *The Farm and the Community.* A standard work dealing with all phases of the subject.

Betts, G. H. *New Ideals in Rural Schools.* Houghton Mifflin Company, Boston. $0.60.

Contains chapters on "The Rural School and its Problems"; "Social Organization of the Rural School"; "Curriculum of the Rural School"; "The Teacher of the Rural School."

Butterfield, K. L. *Chapters in Rural Progress.* University of Chicago Press, Chicago. $1.

An analysis of rural social conditions and progress.

Carlton, F. J. *Education and the Industrial Evolution.* Macmillan Company, New York. $1.25.

The chapters include: "Educational Epochs in the United States"; "Relation between Educational Advancement and Industrial Progress"; "New Aims, Ideals, and Methods"; "Women and Industry"; "Agricultural Education"; "New Educational Projects"; "The School of the Future."

Carney, Mabel. *Country Life and the Country School.* Row, Peterson & Company, Chicago. $1.25.

A comprehensive study, with many practical details, of the agencies for rural progress, and the social relationship of the school to the country community. Contains an extensive bibliography.

CARVER, T. N. *Principles of Rural Economics.* Ginn & Company, Boston. $1.30.

Deals interestingly with the causes of the movement of the rural population toward the city, and the possibilities of the farm and country of the future, treated mainly from an economic point of view.

CUBBERLEY, E. P. *Rural Life and Education.* Houghton Mifflin Company, Boston. $1.50.

A comprehensive study of rural life and the rural school, and their relation to, and dependence upon, each other.

——— *The Improvement of Rural Schools.* Houghton Mifflin Company, Boston. $0.35.

Treats the problem under the following headings: "The Problem"; "More Money"; "Better Organization"; "Better Supervision."

DAVENPORT, E. *Education for Efficiency.* D. C. Heath & Company, Boston. $1.

Includes chapters on "The Culture Aim in Education"; "Agriculture in the High, Normal, and Special Schools"; "The Development of American Agriculture: What It Is and What It Means."

DEXTER, E. G. *History of Education in the United States.* Macmillan Company, New York. $2.00.

Outlines the growth of the people's schools in each state, deals with higher and special education, educational extension, technical and agricultural education, and preparation of teachers.

FISKE, G. W. *The Challenge of the Country.* Association Press, New York. $0.75.

A book on the rural problem in general, and the country church in particular.

FOGHT, H. W. *The American Rural School.* Macmillan Company, New York. $1.25.

Deals with organization, administration, maintenance, supervision, salaries, buildings, nature-study, school gardens, agricultural clubs, consolidation, etc.

HAGGARD, R. *Rural Denmark and its Lessons.* Longmans, Green & Company, New York. $2.25.

Describes the rural regeneration brought about by agricultural education and organization among farmers.

KERN, O. J. *Among Country Schools.* Ginn & Company, Boston. $1.25.

Treats of the country school, and the methods of vitalizing its curriculum and changing its outlook so as to relate it to country life.

Leake, Albert H. *Industrial Education: Its Methods, Problems. and Dangers.* Houghton Mifflin Company, Boston. $1.25.

Deals largely with the elementary schools, and their revitalization along vocational lines.

Leavitt, F. M. *Examples of Industrial Education.* Ginn & Company, Boston. $1.25.

Chapter 18, "Concerning Agricultural Education."

MacDougall, J. *Rural Life in Canada.* Westminster Publishing Company, Toronto. $1.

Discusses the depletion of the rural population and its economic causes, and proposes solutions. The country church is dealt with in detail.

McKeever, W. A. *Farm Boys and Girls.* Macmillan Company, New York. $1.50.

Deals with the whole problem of country life as it affects the boy and the girl. Extensive references at the end of each of the twenty chapters.

Morman, J. B. *Principles of Rural Credits.* Macmillan Company, New York. $1.50.

Explains the methods of financing farmers in European countries, and offers suggestions for their adaptation to the United States and Canada. The book is based on the Report of the United States Commission on Rural Credits.

Plunkett, Sir H. *The Rural Life Problem in the United States.* Macmillan Company, New York. $1.25.

The observations of a well-known Irish agricultural reformer on the problems that confront the American farmer, with suggestions for their solution.

2. Publications of the United States Bureau of Education

Any of the following publications can be obtained free from the United States Commissioner of Education, or at a small charge from the Superintendent of Documents, Washington, D.C.: —

Country Life Commission. *Report.*

The Report of President Roosevelt's Commission on Country Life, outlining the country-life problem and suggesting remedies.

Commissioner of Education. Annual Reports; particularly —

1901. Chapter 13. "Education in the South."
1903. Chapter 8. "The Educational Movement in the South."

1905. Chapter 5. "The Teaching of Agriculture in the Schools of France and Belgium."
1907. Chapter 7. "Education in Canada."
1909. Chapter 11. "Agricultural Education."
13. "Home Economics."
1910. Chapter 4. "Agricultural Education."
1911. Chapter 1. "Educational Progress from 1900 to 1910."
9. "Agricultural Education."
10. "Rural Uplift in Foreign Countries."
1912. Chapter 5. "Rural Education."
9. "A Review of Agricultural Education in 1911–12."
1913. Chapter 8. "Rural Education."
9. "Progress of Agricultural Education in 1912–13."

Bulletins

1907. No. 2. *Agricultural Education, including Nature Study and School Gardens.*

Deals also with the agricultural college, and the practical advantages of instruction in agriculture. Contains a good bibliography.

1908. No. 1. *The Training of Persons to Teach Agriculture in the Public Schools.*

Discusses the nature of the problem in connection with elementary, secondary, and special schools. Methods of training teachers in service as well as new teachers are considered.

1912. No. 1. *A Course of Study for the Preparation of Rural School Teachers.*

Treats of the need for special training, and outlines preparatory and elementary courses in nature-study, agriculture, sanitary science, and practical chemistry applied to rural life.

No. 6. *Agricultural Education in Secondary Schools.*

Papers read at the second annual meeting of the American Association for the Advancement of Agricultural Teaching.

No. 10. *Bibliography of Education in Agriculture and Home Economics.*

An extensive classified list dealing with all phases of instruction in both subjects.

No. 18. *Teaching Language through Agriculture and Domestic Science.*

A suggested scheme for the correlation of agriculture and domestic science with the other subjects of the rural school curriculum

No. 20. *The Readjustment of a Rural High School to the Needs of the Community.*

Shows how Colebrook Academy, which was a typical country high school, has been reorganized so as to meet the needs of the community.

1913. No. 2. *Training Courses for Rural Teachers.*

Gives a detailed account of the methods adopted in the United States for training rural school-teachers, with summaries of the courses and statistics of the schools.

No. 6. *Agricultural Instruction in High Schools.*

Contains a brief historical sketch, and deals with the whole question of secondary agricultural instruction, — salaries of teachers, relation of agriculture to the general school program, difficulties of instruction, etc. Three typical schools are described.

No. 8. *The Status of Rural Education in the United States.*

Compares urban and rural schools, and discusses the one-teacher school, the lack of essentials for efficiency, the status of the teaching force, training courses, the supervision, organization, and management of rural schools.

No. 14. *Agricultural Education in Secondary Schools.*

Papers read at the third annual meeting of the American Association for the Advancement of Agricultural Teaching.

No. 20. *Illiteracy in the United States and an Experiment for its Elimination.*

Describes the organization, management, and influence of the "moonlight" schools of Rowan County, Kentucky.

No. 23. *The Georgia Club at the State Normal School, Athens, Georgia, for the Study of Rural Sociology.*

Gives an account of the activities of a club formed for the study of the social, economic, and educational conditions existing in the different counties of the state.

No. 30. *Education in the South.*

Papers read at the Sixteenth Conference for Education in the South, held at Richmond, Virginia, April, 1913.

No. 32. *An Educational Survey of a Suburban and Rural County.*

An investigation into the conditions existing in Montgomery County, Maryland, by the Department of Church and Country Life of the Board of Home Missions of the Presbyterian Church.

No. 42. *An Experimental Rural School at Winthrop College.*

A practical description of an experiment to discover a method which would enable the teacher of the one-room school to make her school a factor in the development of the life around it.

No. 49. *The Farragut School: A Tennessee Country Life High School.*

Describes the school, which is situated near the village of Concord, Knox County. Contains a list of the equipment for teaching agriculture, carpentry, sewing, and cooking.

No. 58. *The Educational System of Rural Denmark.*

Deals with the history of rural development in Denmark, and gives a detailed account of the school system, with some applications to the United States. Bibliography.

1914. No. 5. *The Folk High Schools of Denmark.*

Gives an account of the origin, organization, work, and influence of the schools, with suggestions as to possible applications in America.

No. 8. *The Massachusetts Home-Project Plan of Agricultural Education.*

Contains chapters on vocational agricultural education, agricultural project study, project study outline for vegetable growing, and a good bibliography.

No. 12. *Rural Schoolhouses and Grounds.*

Deals with health conditions and opportunities in rural life, and offers many plans and suggestions for country schoolhouses.

No. 22. *The Danish Folk High Schools.*

A comprehensive treatment, consisting of ten chapters.

No. 24. *Danish Elementary Rural Schools.*

Deals with the organization, administration, and management of the schools, school architecture, salaries, pensions, etc., and the application of Danish methods to the schools of the United States.

No. 25. *Important Features in Rural School Improvement.*

A compilation from special reports of rural school superintendents to the Bureau of Education.

No. 27. *Agricultural Teaching.*

Papers presented at the fourth annual meeting of the American Association for the Advancement of Agricultural Teaching.

No. 30. *Consolidation of Schools, and Transportation of Pupils at Public Expense.*

Outlines the history and extent of the movement, state legislation, cost of transportation, educational advantages, and describes some typical schools.

Nos. 36–39. *Education for the Home.*

These four bulletins give a comprehensive account of the organization of household science instruction in different types of schools.

No. 49. *Efficiency and Preparation of Rural School Teachers.*

Deals with the efficiency of the teachers now in the schools, outlines some of the things needed to professionalize rural teaching, and describes what is being done for rural teacher preparation.

Monographs on Education in the United States. No. 12, *Agricultural Education.* Published for the St. Louis Exposition, 1904.

Deals with the history of agricultural societies and fairs, the United States Department of Agriculture, the land-grant colleges, courses of study, extension work, and agriculture in the common school.

3. Publications of the United States Department of Agriculture

To be obtained free from the Secretary of Agriculture, or, at a small charge from the Superintendent of Documents, Washington, D.C.

Association of American Agricultural Colleges and Experiment Stations.

American Association of Farmers' Institute Workers.

The proceedings at the annual meetings of these associations are published as bulletins, containing addresses delivered and the discussions thereon.

Bulletin 163. *Agricultural Instruction for Adults in Foreign Countries.*

Describes the provision made for instruction in eleven European countries.

Bulletin 220. *Secondary Agricultural Education in Alabama.*

Describes in detail the work of the congressional district agricultural schools.

Bulletin 231. *College Extension in Agriculture.*

Discussions before the graduate school of agriculture at the Iowa Agricultural College, July, 1910.

Bulletin 232. *Consolidated Rural Schools and the Organization of a County System.*

A very comprehensive treatment of the subject.

Bulletin 242. *County Schools of Agriculture and Domestic Economy in Wisconsin.*

Treats of the origin of these schools, outlines their work, and discusses the ways in which they can help the farmer.

Farmers' Bulletins

No. 95. *Good Roads for Farmers.*

Advantages of good roads, principles which should govern location and treatment, etc.

No. 109. *Farmers' Reading Courses.*

Deals with their origin, purpose, and development in several states.

No. 218. *The School Garden.*

Treats of the value of school gardens, the individual school garden, laboratory exercises, window boxes, decoration of school grounds.

No. 385. *Boys' and Girls' Agricultural Clubs.*

Describes the work of the clubs, and the assistance given by the Department of Agriculture; suggests a type of organization, and recommends books of reference.

No. 422. *Demonstration Work on Southern Farms.*

Plan of organization, scope of the demonstrations, methods and practical results accomplished.

Circulars

No. 24. *The Man Who Works with his Hands.*

An address of ex-President Roosevelt at the semi-centennial celebration of the founding of agricultural colleges in the United States.

No. 49. *Secondary Courses in Agriculture.*

Report of a committee of the Association of American Agricultural Colleges and Experiment Stations, on methods of teaching agriculture.

No. 60. *The Teaching of Agriculture in the Rural Common School.*

No. 73. *Country Life Education.*

An address by W. M. Hays before the Pennsylvania State Board of Agriculture.

No. 84. *Form of Organization for Movable Schools of Agriculture.*

Desirability of such schools, forms of organization, courses, equipment, methods, and results.

No. 85. *Farmers' Institutes for Women.*

Need of extended knowledge, relation of women to rural schools, form of organization and constitution, kind of instruction needed.

No. 90. *Normal School Instruction in Agriculture.*

Place of agriculture in the curriculum, courses, and correlation.

No. 91. *Secondary Education in Agriculture in the United States.*

A report of the Association of American Agricultural Colleges and Experiment Stations.

No. 98. *Progress in Agricultural Extension.*

Organization of the work of the colleges and farmers' institutes; extension organization in various states; a partial solution of the extension problem.

No. 99. *Farmers' Institutes for Young People.*

Deals with different forms of the work, methods of organization, and directions for contests of various kinds.

No. 106. *The American System of Agricultural Education.*

Commences with the departments for research and graduate study, and concludes with the elementary school.

No. 112. *The Transportation Companies as Factors in Agricultural Extension.*

Mainly a description of demonstration trains and their method of operation.

4. *Publications of State Universities, Departments of Education, and Departments of Agriculture*

Alabama. Department of Education, Montgomery.

Bulletin No. 33. *Alabama's Country Schools and their Relations to Country Life.*

Gives a detailed description of conditions, and suggests remedial measures.

Bulletin No. 43. *An Educational Survey of Three Counties in Alabama.*

A valuable pamphlet dealing with population, literacy, farming, economic conditions, administration, teachers, buildings, grounds, equipment, and vitalizing agencies.

Arkansas. Department of Education, Little Rock.

The Rejuvenation of the Rural Community.

An address by the State Superintendent of Public Instruction.

Colorado. Colorado Agricultural College, Fort Collins.

The Rural and Village Schools of Colorado.

An eight-year survey of each school district.

Georgia. State Normal School, Athens.

Georgia Club Bulletins. These bulletins are issued periodically, and deal with such subjects as educational surveys of different counties, farm-life conditions in the South, the country school of permanent influence, etc.

Illinois. State Department of Education, Springfield.

Report of Illinois Educational Commission.

Makes recommendations and suggestions for agricultural training and domestic science courses in different types of schools.

The One-Room and Village Schools in Illinois.

Deals generally with the improvement of rural schools.

Iowa. State Education Department, Des Moines.

Conditions and Needs of Iowa Rural Schools.

Deals with the schools under the following heads: "Country School Statistics"; "The Country School Problem"; "Present Status of Consolidation"; "Buildings and Grounds."

Kansas. State Board of Agriculture, Topeka.

Agricultural Education as a Factor in Developing Useful Men.

In the Report for 1904. Contains, in addition, addresses on agricultural leadership; public education; the social center of the country neighborhood; country life.

Western State Normal, Hays.

Educational Agriculture.

A useful discussion of the principles and motives underlying agricultural education, with a practical chapter on agricultural literature and its use in the school.

State Agricultural College, Manhattan.

Manual Training in Village and Rural Schools.

A practical application of manual training to the needs of the rural school.

Kentucky. Department of Public Instruction, Frankfort.

Consolidation and Transportation.

Deals with conditions in Kentucky. Advantages of and objections to consolidation. Outlines methods that have been adopted to bring about consolidation.

Demonstration Schools.

Outlines the success of the demonstration school in rural school improvement, and suggests a score card for grading rural schools.

Home Economics Work.

Describes work that can be done in every rural school and home.

School League and Improvement Work.

Suggests a constitution, and outlines methods of improvement in regard to sanitation, material conditions in the schoolroom, school gardens and grounds, and the establishment of school fairs, clubs, etc.

Massachusetts. State Board of Education, Boston.

Agricultural Projects for Elementary Schools.

Gives methods that can be adopted by the untrained teacher in carrying out fourteen different agricultural projects.

Supervision of Teaching in Elementary Schools.

A bulletin issued to help the superintendent, especially at the beginning of his service.

Report on Agricultural Education, 1911.

An investigation into the desirability of establishing a system of agricultural schools throughout the state.

Michigan. State Superintendent of Public Instruction, Lansing.

1906. Bulletin No. 19. *Consolidation of School Districts.*

States the law and gives the method of procedure to be followed.

1912. Bulletin No. 44. *Agriculture in Rural Schools.*

Outlines the work that can be done in the average rural school.

1913. Bulletin No. 11. *A Course of Agriculture for the High Schools of Michigan.*

Michigan Agricultural College, East Lansing.

Suggestions and syllabi for the different subjects to be taught.

Minnesota. State Superintendent of Public Instruction, St. Paul.

Consolidation of Rural Schools in Minnesota.

Deals with the problems to be solved, compares the old and the new, and outlines the methods to be adopted to effect consolidation.

Bulletin No. 38. *Secondary Courses in Agriculture.*

Outlines with much detail and clearness the course to be followed. Concludes with a section on rural school agriculture.

Missouri. State Department of Education, Jefferson City.

A Course of Study in Agriculture for High Schools.

Gives course of study, list of equipment, textbooks, etc., and instructions for carrying out home projects and for keeping notebooks.

First District Normal School, Kirksville.

Rural Life Conferences, *Reports.*

Bulletins are published annually by the school, giving the addresses delivered.

Nebraska. Department of Education, Lincoln.

A Letter from the State Superintendent. September 25, 1912.

Describes the plan adopted in the State of Oregon for giving school credit for home work.

Domestic Science — Crete Plan.

Outlines a plan for giving domestic science instruction in the home, suited to small towns, villages, and rural schools.

New York. Department of Education, Albany.

Our Children, our Schools, and our Industries.

An argument for the revitalization of our schools in the direction of craftsmanship.

Agriculture and its Educational Needs.

An address before the State Teachers' Association. An argument for real agricultural education, and rather deprecating its introduction into the elementary school.

Proceedings of the University Convocation Annual Meetings.

Published annually as bulletins. Often contain scholarly addresses relating to agricultural education.

Proceedings of the New York State Agricultural Society.

Published annually as bulletins by the State Department of Agriculture, Albany.

North Carolina. Department of Public Instruction, Raleigh.

Consolidation of Schools, and Public Transportation of Pupils.

An investigation undertaken to discover the cost and efficiency of the one-teacher school, the extent and results of consolidation, and an attempt to reach a valid conclusion as to whether efficiency and economy do not demand the displacement of the one-teacher school by the consolidated school.

North Dakota. University of North Dakota, Grand Forks.

Report of the Rural School Commission, 1912.

Advocates longer terms and better attendance, better financial support, better organization, consolidation of schools, better teaching, improved supervision, and a campaign for rural uplift.

The Consolidation of Rural Schools in North Dakota.

Divided into four sections: "North Dakota Rural Schools as They Are"; "What Is Being Done About It"; "Consolidation Problems Considered"; "Tables and Statistics."

South Carolina. Winthrop Normal and Industrial College, Rock Hill.

Elementary Agriculture and School Gardening.

Outlines a method of procedure that can be followed by the untrained teacher.

Rural Life Bulletins.

Addresses delivered at the Rural Life Conferences held annually.

Tennessee. Department of Public Instruction, Nashville.

The Rural School Situation in Tennessee.

Deals with consolidation and transportation.

Virginia. University of Virginia, Charlottesville.

Proceedings of Rural Life Conferences, held annually at the University.

West Virginia. State Board of Regents, Charleston.

Special Report on Agriculture.

Chapters on "Agriculture our Greatest Asset"; "How shall We Improve Our Agriculture and Rural Life"; "Methods of Reaching the People"; "Results in Other Countries and States."

Wisconsin. State Education Department, Madison.

Plans for the Extension of Agricultural and Industrial Training.

Report of a commission. Deals with several forms of industrial and agricultural education, and the introduction thereof into different types of schools.

Social and Civic Work in Country Communities.

Report of a commission appointed to investigate conditions in the rural schools. Deals with the school and the home as social and civic centers, and advocates coöperation between the two.

Consolidation of School Districts.

Contains chapters on "What is Consolidation"; "Purposes and Advantages"; "Consolidation and Transportation in Wisconsin";

"Consolidation in Other States"; "Limitations and Cautions"; "Methods of Procedure."

5. *Canadian Federal and Provincial Publications*

Royal Commission on Industrial and Technical Education, *Report*. 4 vols. King's Printer, Ottawa.

The report of a commission of seven members, who were occupied for two years in investigating industrial and agricultural education in England, Scotland, Ireland, Denmark, France, Germany, Switzerland, the United States, and Canada.

Department of Agriculture, Ottawa.

Bulletins of Foreign Agricultural Intelligence. Issued monthly.
The Agricultural Gazette.

Devotes considerable space to agricultural education.

Ontario Department of Agriculture, Toronto.

Annual reports of Farmers' Institutes, Women's Institutes, and the Ontario Agricultural and Experimental Union.

Department of Education, Toronto.

Elementary Agriculture, Horticulture, and School Gardens.
Regulations Relating to Elementary Agriculture, Horticulture, and School Gardens.
Bulletins on Agricultural Education. Nos. 1 to 10.
Education for Industrial Purposes, by Dr. J. Seath, Superintendent of Education.

A report to the Minister of Education. A very valuable document.

6. *Publications of Various Societies*

National Society for the Study of Education. Yearbooks. University of Chicago Press, Chicago. Especially —

Fifth, 1905. *The Place of Vocational Subjects in the High School Curriculum.*
Tenth, 1911. *The City School as a Community Center.*
The Rural School as a Community Center.
Eleventh, 1912. *Agricultural Education in Secondary Schools.*
Twelfth, 1913. *Supervision of Rural Schools.*
Thirteenth, 1914. *Plans for Organizing School Surveys.*

National Education Association.

Annual Proceedings.
Report of Committee of Twelve on Rural Schools.

Industrial Education for Rural Communities, 1905.
The Place of Industries in Public Education, 1910.

Conference for Education in the South. *Annual Proceedings.*

Society for the Promotion of Agricultural Science. *Annual Proceedings.*

American Academy of Political and Social Science. *Annals.* Various issues, but especially that of March, 1912, which contains twenty-eight valuable articles by well-known authorities, and deals with almost every phase of the rural-life problem.

7. *Publications of the Board of Education, London, England*

Special reports on educational subjects; particularly —

Vol. 7. *The Rural Schools of North West France.*
Rural Education in France.
Vol. 8. *A Plea for a Great Agricultural School.*
Vol. 9. *School Gardens in Germany.*
Vol. 10. *Nature Study in the United States.*
Vol. 15. *School Training for the Home Duties of Women.*
Vol. 16. *School Training for the Home Duties of Women.*

Educational pamphlets, No. 13. *The Problem of Rural Schools and Teachers in North America.*

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